Gestetner LANIER RICOH savin

Product Support Guide

Product Code	Gestetner	Lanier	Ricoh	Savin
G181 G183 G184	SP C220S SP C221SF SP C222SF	SP C220S SP C221SF SP C222SF	SP C220S SP C221SF SP C222SF	SP C220S SP C221SF SP C222SF

Product Code: **G181, G183, G184**

Launch Date: **01/08/2008**

S/N Configuration:
G181 Q27YMMXXXXX
G183 Q28YMMXXXXX
G184 Q30YMMXXXXX

Training Information

B222 or G160 Certified professionals who have completed Printing Technologies or predecessor courses should have the skills necessary to service this series and have been **automatically certified** by Ricoh University on the G165/G166/G167 Printer and G181/G183/G184 MFP.

It is **strongly** recommended that all the information provided in this G165/G166/G167 Printer and G181/G183/G184 MFP Service Documentation Update Package be **thoroughly** reviewed by all automatically certified Service Professionals **prior** to performing any service. It is also **strongly recommended** that Service Professionals review this material while they have access to a G165/G166/G167 Printer and G181/G183/G184 MFP, preferably with all options.

Self Pace Order Number

G181/ G183/ G184 Service Documentation Update Package:	Order number 003358MIU
G181/ G183/ G184 Service Manual:	Order number 003359MIU
G181/ G183/ G1847 Parts Catalog:	Order number 003360MIU

RFG E-source Content ID

G181/ G183/ G184 Point to Point	rfg030490
G181/ G183/ G184 Operating Instructions	rfg030491
G181/ G183/ G184 Parts Catalog	rfg030489
G181/ G183/ G184 Service Manual	rfg030488

I. General Information

A. Launch Status:

- Targeted Launch Date: 1/8/2008

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C. Product Names:

Product Code	Gestetner	Lanier	Ricoh	Savin
G181 **G183** **G184**	**SP C220S** **SP C221SF** **SP C222SF**	**SP C220S** **SP C221SF** **SP C222SF**	**Aficio** **SP C220S** **SP C221SF** **SP C222SF**	**SP C220S** **SP C221SF** **SP C222SF**

D. EDP Codes:

Model	Order Number
G181 Ricoh SP C220S G183 Ricoh SP C221SF G184 Ricoh SP C222SF	406126 406131 406136
G183 Gestetner SP C220S G183 Gestetner SP C221SF G184 Gestetner SP C222SF	406127 406132 406037
G181 Lanier SP C220S G183 Lanier SP C221SF G184 Lanier SP C222SF	406127 406132 406037
G181 Savin SP C220S G183 Savin SP C221SF G184 Savin SP C222SF	406127 406132 406037
G181 SP C220S 220V G183 SP C221SF 220V G184 SP C222SF 220V	406129 406134 406139

1. Branding Kits:

Branding	Order number
Ricoh:	003330MIU
Gestetner:	003333MIU
Lanier:	003332MIU
Savin:	003331MIU

Gestetner Branding Emblem is for RLA only.
Branding Emblems are ordered in packs of 50.

2. Serial Number Sequence:

Brand	Name	Product Code	Serial #
Ricoh/Savin/ Gestetner /NRG/Lanier	G181 SP C220S	G181-11, 17, 21, 22, 27	Q27YMMXXXXX
	G183 SP C221SF	G183-11, 17, 21, 22, 27	Q28YMMXXXXX
	G184 SP C222SF	G184-11, 17, 21, 22, 27	Q30YMMXXXXX

Destination	Name	Product Code	Serial #
Ricoh/NRG/Lanier/ Savin/Gestetner	Paper Feed Unit TK1010	G849-27	Q95YMMXXXXX

E. Accessories:

Accessory	Product Code	Ricoh Order number	Savin Order number	Gestetner Order Number	Lanier Order number
Paper Feed Unit TK1010	G849-27	406019	406019	406019	481-7349
Memory Unit Type F 256MB*		003310MIU	003310MIU	003310MIU	481-7631
SX-2500CG Wireless Adaptor		100118FNG	100118FNG	100118FNG	481-7650

*256MB module is used with SP C221N, SP C222DN
**512MB Module is compatible with SP C222DN only.

Option		
Paper Tray (500x1)	Paper Size	A4,Letter
	Paper Weight	60-105g/m2(16-28lb)
	Paper capacity	500 sheets x 1 tray
	Dimensions	400 x 450 x 127mm/16 x 18 x 5.08 inch
	Weight	6 kg / 13.2 lb

F. Configuration difference by Models

Models	NIC	Duplex Unit	Additional Memory	Optional Tray	ADF	FAX	DDST (GDI)	PCL PS
G181	Yes	No	No	No	No	No	Yes	No
G183	Yes	Auto	No	500x1	Yes	Yes	Yes	No
G184	Yes	Auto	Yes	500x1	Yes	Yes	No	Yes

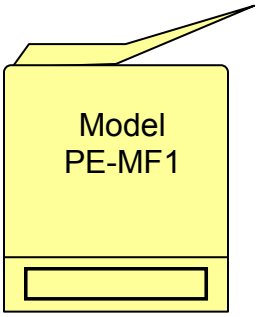
G. Supplies:

Supply	Yield	Ricoh	Savin	RLA only Gestetner	Lanier
Standard Toner					
Print Cartridge Cyan SP C220	2,000	406096	7922	406168	4800443
Print Cartridge Magenta SP C220	2,000	406099	7923	406169	4800444
Print Cartridge Yellow SP C220	2,000	406105	7924	406170	4800445
Print Cartridge Black SP C220	2,000	406093	7921	406167	4800442

Starter Toner comes supplied with the printers and the Yield is approximately 1,000 prints

I. Basic Configuration

Standard configuration



* Interface
  - -Ethernet 10/100base-TX
  - -USB 2.0
* Paper handling
  - - Standard 250-sheet tray
  - - Bypass tray 1-sheet
  - - Duplex
    (G181: Non, G183 / G184: Auto)
  - - ADF
    (G181: Non, G183 / G184: Standard)

Input Paper Option

*Optional Tray (G183 / G184:)
- 500 sheets tray
- Only 1 tray can be attached

Controller Option

*Memory 256MB (model G184)

II. PRODUCT RATIONALE

A. Major Features

High productivity with tandem technology
16ppm color / 16ppm B/W: (G181)
21ppm color / 21ppm B/W: (G183 / G184)
Quick 1st print: 14 sec. in B/W and color
First Copy time: 30 sec. from ADF
Standard Duplex units: (G183/184)
Quick recovery mode from low power
Full functioned AIO with compact body

<Printing>
16/16ppm (G181)
21/21ppm (G183 / G184), Network and USB ready
GDI: G181 / G183, PCL/PS3: G184

<Scanning>
Platen (G181) ADF (G183 / G184), 35 sheets max,
Twain via NW and USB, WIA
Scan to e-mail, Scan to Folder, Scan to FTP

<Fax> (G183 / G184)
ADF (35 sheets max), Super G3 compatible
PC Fax = No
Internet Fax = No

<Copy>
FC / Mono = 16/16ppm (G181)
FC / Mono = 21/21ppm (G183 / G184)
600x600dpi (bit/pixel)

Compactness
Same Footprint as G165 series printers

B. Mainframe Specifications

Configuration: Desktop

Technology:
Reading element: Flatbed with CCD array image-sensor
Printing processing: Laser beam scanning & Electro photographic printing
Mono-component toner development
4 drums tandem method
USB 2.0 / 100Base-TX

Resolution: (dpi, bit/pix) 600 x 600 dpi (Speed Mode)
1200 x 600 dpi equivalent (Std Mode)
2400 x 600 dpi equivalent (Fine Mode)

Print Speed: FC / Mono: G181: 16ppm (LT:16.5ppm)
FC / Mono: G183 / G184: 21ppm (LT:21ppm)

First Print Speed: FC / Mono: Less then 14 sec

Duplex Printing: G181 No
G183 / G184 Yes 2 60% speed

Dimensions: (W x D x H): G181: 16.5 x 19.4 x 17.3 inch 420 x 493 x 439mm
G183: 16.5 x 19.4 x 18.7 inch 420 x 493 x 476mm
G184: 16.5 x 19.4 x 18.7 inch 420 x 493 x 476mm

Weight: G181: 61.73lb 28.0 kg
G183/G184: 66.14lb 30.0 kg

CPU:

	Engine CPU
G181	400Mhz ARM 11
G183	400Mhz ARM 11
G184	400Mhz ARM 11

RAM: G181 128MB Standard and Max
G183 128MB Standard and Max
G184 256MB /expandable to 512MB *

Memory type DDR-SDRAM 333MHz CL2.5 32bit Non-ECC Unbuffered 100 Pin
* Model G184 has 1 memory slot expansion. Ricoh will only have 256MB memory as an option.

HDD: Not Available

PDL:

G181 & G183	DDST (GDI)
G184	PCL5c, PCL6 & PS3 emulation

Fonts: PCL / PS3: HP 80 fonts (G184)

Connectivity:

Host Interface: Standard: USB2.0 (Support High Speed Mode),
Ethernet 10BASE-T,100BASE-TX
Option: **(Standard – no options)**
Network Protocol: G181 TCP/IP,
G183 & G176 TCP/IP, Appletalk
SNMP, IPP, LPR, SMTP,
MIB support Private MIB Original
Standard MIB (SMNP Printer MIB) MIB-II(RFC1213),
HostResource(RFC1514), PrinterMib(RFC1759)

Network/Operating Systems: Windows 2000/ XP/ Vista/ 2003server
Mac OS X (V10.2.8-10.4)

Continuous Print Speed (PPM):

	(A4,/LT SEF)Color / monochrome
G181	16 ppm
G183	21 ppm
G184	21 ppm

Input / Output Paper Capacity:

Input

Standard Paper Tray	250 sheets (80g/m2, 20lb, 70kg)
Optional Paper Tray (G183 &G184)	500 sheets (80g/m2, 20lb, 70kg)
Max paper Quantity	251 sheets for G181 751 sheets for G183 /167

Output

Standard Tray 150 Sheets (Face down)

Controller

	Print Resolution	Engine		600 x 600 dpi (Speed Mode), 1200 x 600 dpi equivalent (Std Mode), 2400 x 600 dpi equivalent (Fine Mode)
		Controller	PCL5c	600 x 600 dpi (Speed Mode), 1200 x 600 dpi equivalent (Std Mode), 2400 x 600 dpi equivalent (Fine Mode)
			PCL6	600 x 600 dpi (Speed Mode), 1200 x 600 dpi equivalent (Std Mode), 2400 x 600 dpi equivalent (Fine Mode)
			DDST (GDI)	600 x 600 dpi (Speed Mode), 1200 x 600 dpi equivalent (Std Mode), 2400 x 600 dpi equivalent (Fine Mode)
			PS3	600 x 600 dpi (Speed Mode), 1200 x 600 dpi equivalent (Std Mode), 2400 x 600 dpi equivalent (Fine Mode)
		Drivers	PCL5c	600 x 600 dpi (Speed Mode), 1200 x 600 dpi equivalent Std Mode), 2400 x 600 dpi equivalent (Fine Mode)
			PCL6	600 x 600 dpi (Speed Mode), 1200 x 600 dpi equivalent (Std Mode), 2400 x 600 dpi equivalent (Fine Mode)
			DDST (GDI)	600 x 600 dpi (Speed Mode), 1200 x 600 dpi equivalent (Std Mode), 2400 x 600 dpi equivalent (Fine Mode)
			PS3	600 x 600 dpi (Speed Mode), 1200 x 600 dpi equivalent (Std Mode), 2400 x 600 dpi equivalent (Fine Mode)
		Operation Panel		1. English, 2. Italian, 3. French, 4. German, 5. Spanish, 6. Dutch, 7.Sedish, 8. Norwegian, 9.Danish, 10. Portuguese, 11. Finnish
	Language		PCL5c PCL6	1. English, 2. Italian, 3. French, 4. German, 5. Spanish, 6. Dutch, 7.Sedish, 8. Norwegian, 9.Danish, 10. Portuguese, 11. Hungarian, 12.Finnish, 13.Polish, 14. Czech, 15.Russian, 16.Simplified Chinese,
			PS 3	1. English, 2. Italian, 3. French, 4. German, 5. Spanish, 6. Dutch, 7.Sedish, 8. Norwegian, 9.Danish, 10. Portuguese, 11. Hungarian, 12.Finnish, 13.Polish, 14. Czech, 15.Russian, 16.Simplified Chinese,
		Test Page Print	DDST (GDI)	1. English, 2. Italian, 3. French, 4. German, 5. Spanish, 6. Dutch, 7.Sedish, 8. Norwegian, 9.Danish, 10. Portuguese, 11. Hungarian, 12.Finnish, 13.Polish, 14. Czech, 15.Russian, 16.Simplified Chinese,
			Config. Map	1. English, 2. Italian, 3. French, 4. German, 5. Spanish, 6. Dutch, 7.Swedish, 8. Norwegian, 9.Danish, 10. Portuguese, 11. Finnish
		Test Page Print	The others	English

Feature/Option	SP C220S	SP C221SF	SP C222SF

	(G181)	(G183)	(G184)
Duplex Unit	No	Standard	Standard
Paper Feed Unit	N/A	Option	Option
NIC	Standard	Standard	Standard
Memory	N/A	N/A	256MB Type F
Printer Language	DDST (GDI) *	DDST (GDI) *	PCL5c/6 PS3 emulation
Pict Bridge (USB Host)	N/A	N/A	Supported

DDST (Dynamic Data Stream Technology) is Ricoh's original naming for GDI

Printer Resolution & PDL:

G181 & G183 DDST (GDI)
G184 PCL5c, PCL6 & PS3 emulation

Note: **Can be printed** : Normally possible to print out
Guaranteed : Possible to print out even the complex data is sent

= 128MB
= 192MB
= 256MB
= More than 256MB

PCL

Resolution	Paper Size	Simplex					
		Can be printed			Guaranteed		
		Std.	Op.		Std.	Op.	
600x600dpi	LG	128		128	128		128
	A4/LT			128			128
	B5			128			128
	A5			128			128
	A6			128			128
1200x600dpi	LG			128			128
	A4/LT			128			128
	B5			128			128
	A5			128			128
	A6			128			128
2400x600dpi	LG			N/A *1			N/A
	A4/LT			128			128
	B5			128			128
	A5			128			128
	A6			128			128

Resolution	Paper Size	Duplex					
		Can be printed			Guaranteed		
		Std.	Op.		Std.	Op.	
600x600dpi	LG	128		128	128		128
	A4/LT			128			128
	B5			128			128
1200x600dpi	LG			128			128
	A4/LT			128			128
	B5			128			128
2400x600dpi	LG			N/A *1			N/A
	A4/LT			128			128
	B5			128			128

PS

Resolution	Paper Size	Simplex					
		Can be printed			Guaranteed		
		Std.	Op.		Std.	Op.	
600x600dpi	LG	128		128	128		128
	A4/LT			128			128
	B5			128			128
	A5			128			128
	A6			128			128
1200x600dpi	LG			128			128
	A4/LT			128			128
	B5			128			128
	A5			128			128
	A6			128			128
2400x600dpi	LG			N/A *1			N/A
	A4/LT			128			128
	B5			128			128
	A5			128			128
	A6			128			128

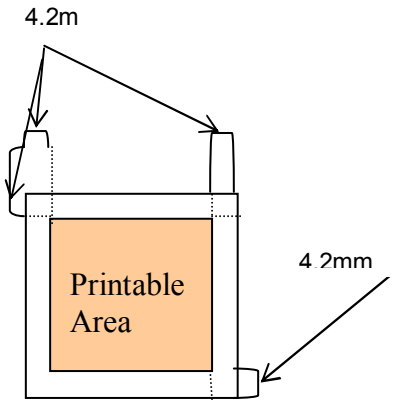
Resolution	Paper Size	Duplex					
		Can be printed			Guaranteed		
		Std.	Op.		Std.	Op.	
600x600dpi	LG	128		128	128		128
	A4/LT			128			128
	B5			128			128
1200x600dpi	LG			128			128
	A4/LT			128			128
	B5			128			128
2400x600dpi	LG			N/A *1			N/A
	A4/LT			128		256	384
	B5			128		256	384

*1: When you specify "LG" paper size and "2400x600dpi" resolution at printer driver, all jobs are cancelled due to memory limitation of main board.
We will change specification of simplex and duplex printing like below with running change.
a: If data size after compressing does not go beyond memory upper limit, data is printed out.
b: If data size after compressing goes beyond memory upper limit, data is cancelled.

Printable Area:

		mm	Inch
Non-printable area	Side	Approx. 4.2	Approx. 1/6"
	Leading & Tailing edge	Approx. 4.2	Approx. 1/6"

Note : The printable area may vary depending on paper size, printer language and printer driver settings.



Document Scanning Area:

		Left	Right	Leading	Tailing
Non-scanning area	Scan	0mm	0mm	0mm	0mm (FB) 2mm (ADF)
	Copy	3mm	3mm	3mm	3mm
	Fax	1mm	1mm	1mm (FB) 0mm (ADF)	2mm

Paper Media Size and Weight:

Type		SEF/LEF	Size		Input Tray		Duplex
				Standard Tray	Option Paper Feed Unit	Bypass Tray	
Plain Paper	A4	SEF	210x297	A	A	B	Y
		LEF	297x210	N	N	N	N
	B5	SEF	182x257	A	N	B	Y
		LEF	257x182	N	N	N	N
	A5	SEF	148x210	A	N	B	N
		LEF	210x148	N	N	N	N
	B6	SEF	128x182	B	N	B	N
		LEF	182x128	N	N	N	N
	A6	SEF	105x148	B	N	B	N
		LEF	148x105	N	N	N	N
	DLT	SEF	11" x 17"	N	N	N	N
	Legal	SEF	8 1/2"x14"	A	N	B	Y
	Letter	SEF	8 1/2"x11"	A	A	B	Y
		LEF	11"x 8 1/2"	N	N	N	N
	Half Letter	SEF	5 1/2" x 8 1/2"	C	N	C	N
	Executive	SEF	7 1/4"x10 1/2"	A	N	B	Y
		LEF	10 1/2"x7 1/4"	N	N	N	N
	F	SEF	8" x 13"	B	N	B	N
	Foolscap	SEF	8 1/2" x 13"	B	N	B	N
	Folio	SEF	8 1/4" x 13"	B	N	B	N
	8 Kai	SEF	267 x 390	N	N	N	N
	16 Kai	SEF	195 x 267	C	N	C	N
		LEF	267 x 195	N	N	N	N
Envelope	Com10	SEF	4 1/8" x 9 1/2"	C	N	C	N
	Monarch	SEF	3 7/8" x 7 1/2"	C	N	C	N

	C6	SEF	114 x 162	C	N	C	N
	C5	SEF	162 x 229	C	N	C	N
	DL Env	SEF	110 x 220	C	N	C	N
Custom		Width	90-216mm (3.6"x 8.5")	C	N	C	N
		Length	148 – 356mm (5.8"x 14.24")	C	N	C	N

Input Tray	
A	: Supported and the size is molded in the tray.Need to select paper size by operation panel/driver.
B	: Supported but size is not molded in the tray. Need to select paper size by operation panel/driver.
C	: Need to input paper size by operation panel and driver.
N	: Not supported.

Maximum Original Size

Platen	A4, LT (8 1/2" x 11")
ADF	A4, LT, LG (8 1/2" x 14")

(G181)

BW		Simplex		
Paper Type	dpi	A4	LT	LG
General Paper 60-90g/m2	600x600	16	16.5	14
	1200x600	16	16.5	14
	2400x600	16	16.5	14
Thick Media 90-160g/m2	600x600	10	10	8
	1200x600	10	10	8
	2400x600	NA	NA	NA

(G181)

Color		Simplex		
Paper Type	dpi	A4	LT	LG
General Paper 60-90g/m2	600x600	16	16.5	14
	1200x600	16	16.5	14
	2400x600	16	16.5	14
Thick Media 90-160g/m2	600x600	10	10	8
	1200x600	10	10	8
	2400x600	NA	NA	NA

(G183 / G184)

BW		Simplex			Duplex		
Paper Type	dpi	A4	LT	LG	A4	LT	LG
General Paper 60-90g/m2	600x600	20	21	17	12	12	11
	1200x600	20	21	17	12	12	11
	2400x600	20	21	17	12	12	11
Thick Media 90-160g/m2	600x600	10	10	8	NA	NA	NA
	1200x600	10	10	8	NA	NA	NA
	2400x600	NA	NA	NA	NA	NA	NA

(**G183 / G184**)

Color		Simplex			Duplex		
Paper Type	dpi	A4	LT	LG	A4	LT	LG
General Paper 60-90g/m2	600x600	20	21	17	12	12	11
	1200x600	20	21	17	12	12	11
	2400x600	20	21	17	12	12	11
Thick Media 90-160g/m2	600x600	10	10	8	NA	NA	NA
	1200x600	10	10	8	NA	NA	NA
	2400x600	NA	NA	NA	NA	NA	NA

Counter Information

Counter Definition;

-Print job counts by every page.
-Duplex print counts as 2 pages once, exclude additional blank page.
-Copy job counts by every printout page for all copy functions
-FAX RX counts for FAX-In data to printout
-FAX TX counts for FAX-Out data
-Scan job counts by every scan page.
-Additional blank page is not counted.
-Jam counter detail information can get from the maintenance page.

Counter Specification

Counter information can be checked in some ways. Please refer to the below schedule.

Category	Item	Webpage	Config Page	Maintenance Page	Panel UI
Print Application	Name	Print	Print Mode	Print mode	No
	Total	Total	Total Page	Total Page	No
	Color	Color	Color Page	Color Page	No
	B&W	Black	Black Page	Black Page	No
Copy Application	Name	Copy	Copy Mode	Copy mode	No
	Total	Total	Total Page	Total Page	No
	Color	Color	Color Page	Color Page	No
	B&W	Black	Black Page	Black Page	No
Scan Application	Name	Scan	Scan Mode	Scan mode	No
	Total	Total	Total Page	Total Page	No
	Color	Color	Color Page	Color Page	No
	B&W	Black	Black Page	Black Page	No
Fax Application	Name	Fax	Fax Mode	Fax mode	No
	Total	Total	Total Page	Total Page	No
	TX Total	Transmission	Fax TX Total Pg	Fax TX	No
	RX Total	Reception	Fax RX Total Pg	Fax RX	No
Printed	Name	Printer Counter	Total Mode	Total Page	Printer Counter
	Total	Page Total	Total Page	Total Page	Total Page
	Color	Color	Color Image	Color Image	Color Image
	B&W	Black	Black Image	Black Image	Black Image
Scanned	Name	No	No	Scanner Counter	Scanner Counter
	Total	No	No	Total Page	Page Total
	Color	No	No	Color Page	Page Color
	B&W	No	No	Black Page	Page Black
	ADF	No	No	ADF	ADF Used
Duplex	Name	Both Sides	Both Sides	No	No
	Both Size	Both Sides Total page	Both Sides Total page	No	No
Jam	Name	No	No	JAM	Jam Counter
	Total	No	No	Jam Total	Jam Total
	ADF	No	No	ADF	ADF
	Printer Output Bin	No	No	Printer Output Bin	Printer Output Bin
	Internal	No	No	Internal	Internal
	Tray1	No	No	Tray1	Tray1
	Tray2	No	No	Tray2	Tray2
Coverage	Name	Coverage	No	No	No
	Coverage <A% Count	Coverage <A% Count	Coverage <A% Count	No	No
	Coverage A-B% Count	Coverage A-B% Count	Coverage A-B% Count	No	No
	Coverage >B% Count	Coverage >B% Count	Coverage >B% Count	No	No

Regarding the coverage data A & B setting, it can be changed from Panel UI in maintenance mode and the A & B data limitation is;

A & B < 100%
A<B
Default value: A=5, B=20

Counter Name / Job	Color Copy	B/W Copy	Push Scan	Color Print	B/W Print	Fax Output	Report Print (B/W)	Report Print (Color)	PDL List Print (Color)	PDL List Print (B/W)
Print *2				Yes	Yes				Yes	Yes
Scan			Yes							
Fax						Yes				
Copy	Yes	Yes								
Printer Counter Total	Yes	Yes		Yes	Yes	Yes	Yes *1	Yes *1	Yes	Yes
Printer Counter Color	Yes			Yes			Yes *1		Yes	
Printer Counter B/W		Yes			Yes	Yes		Yes *1		Yes

*1 GW machines do not count these areas if it is in SP mode.
*2 Print Counter Comparison with GW/G165/ G166 /G167 Printer.

Differences in Counter Specification

Please note there are some differences in counter specification from other Ricoh GW machines
There are also some differences from G165/G166/G167.
Please refer to the below comparison chart.

Mode		GW	G181, G183, G184	G165
Documents with an odd number of pages in "Letterhead" mode	last blank page	non count	non count	count
When Using "Front Cover" function	Top blank page	non count	count	count
Documents with an odd number of pages in duplex	last blank page	non count	non count	non count

There is a possibility that function excluding additional blank page at final page in combination with Word 2004 and PS3 driver although you specify "Print Blank Pages" as "On" at printer driver.

Dual Access

The following matrix chart shows the current capability of dual access for G181 / G183 / G184

Function		2nd Access						
		Copy	Scan	Print	Fax Memory TX	FAX Immediate TX	FAX memory RX	FAX immediate RX
1 st Access	Copy		No	Yes	Yes	No	Yes	No
	Scan	No		No	Yes	No	Yes	No
	Print	No	No		No	No	Yes	No
	Fax Memory TX	Yes	Yes	Yes		No	No	No
	FAX Immediate TX	No	No	No	No		No	No
	FAX memory RX	Yes	Yes	Yes	No	No		No
	FAX immediate RX	No	No	No	No	No	No	

Toner Yields:

Supply	Yield
Starter Cartridge	
Print Cartridge Black SP C220	Approximately 1,000 prints/cartridge
Color	Approximately 1,000 prints/cartridge
Standard Toner	
Print Cartridge Black SP C220	Approximately 2,000 prints/cartridge
Color	Approximately 2,000 prints/cartridge
Used Toner Bottle	Approximately 25,000 prints/cartridge*1

Condition:
1) A4 (8.5"x11") by 5% chart and 24P/J is used as condition to measure above yield.
2) The condition is standard temperature and humidity.
3) This yield number may change depending on the circumstances and printing conditions.
4) *1Waste Toner Bottle's yield is measured when printer is used 50% color, 50% b/w

Consumable Storage / Transportation Conditions

	Conditions for Storage		Conditions for Transportation		
	Temperature	Humidity	Temperature	Humidity	Storage Period
Main unit	-30C to 40C	Under 80%	-30C to 50C	15%~95%	12 months
AIO	-10C to 40C	15% to 80%	-10C to 40C*	15%~80%	24 months

* Possible to store within 1 week in a temperature of 40C to 45C.
Possible to store within 12h in a temperature of 45C to 50C.

Interface Specification:

Data Transmission Speed	10Mbps, 100Mbps
Protocol	TCP/IP, IPP
Supported OS	Windows 2000/XP/Server2003/Vista, Mac OS 10.2.8 – 10.4
Distance between devices	100m

USB2.0 Interface (Standard for G181, G183, G184)

Data Transmission Speed	480 Mbps (High Speed: USB 2.0), 12 Mbps (Full Speed)
Protocol	TCP/IP
Supported OS	Windows 2000/XP /Vista /Server 2003(USB2.0)/Vista Mac OS 10.2.8 – 10.4 (USB2.0)
Distance between devices	5m

Bundled Utility:

#	Utility Name	Support Status
1	Page Manager	Yes

Optional Utility:

#	Utility Name	Support Status
1	None	-

Supported Environments:

Windows OS	Type	DDST	PCL5c	PCL6	PostScript3
Windows 2000	Professional	Y	Y	Y	Y *1
	Server (*3)	Y	Y	Y	Y *1
	Advanced Server (*3)	Y *2	Y *2	Y *3	Y *1*2
	Datacenter Server	N	N	N	N
Windows XP	Professional	Y	Y	Y	Y *1
	Home Edition	Y	Y	Y	Y *1
Windows Vista	Ultimate	Y	Y	Y	Y
	Business	Y	Y	Y	Y
	Home Premium	Y	Y	Y	Y
	Home Basic	Y	Y	Y	Y
	Starter	N	N	N	N
Windows Server 2003	Standard	Y	Y	Y	Y *1
	Enterprise	Y *2	Y *2	Y *2	Y *1*2
	Datacenter Edition	N	N	N	N
	Web Edition	N	N	N	N

*1…Adobe does not release PS driver for Windows 2000 and XP. Only MS-PostScript driver is available and PPD file for MS-PS is included in the Driver CD.
*2…Cluster Server configuration is not supported.
*3…See "Point & Print" and "Terminal Service and Citrix Metaframe"

Point And Print:

Window OS		Drivers			
Server	Client (Push to)	GDI	PCL5c	PCL6	PS
Windows Server 2003	XP	Y	Y	Y	Y
	Vista	Y	Y	Y	Y
	W2K Pro	Y	Y	Y	Y
Windows XP Professional	XP	Y	Y	Y	Y
	Vista	Y	Y	Y	Y
	W2K Pro	Y	Y	Y	Y
Windows2000 Professional, Server & Advanced Server	XP	Y	Y	Y	Y
	Vista	Y	Y	Y	Y
	W2K Pro	Y	Y	Y	Y

Terminal Service Citrix MetaFrame:

Server	Driver			
	GDI	PCL5c	PCL6	PS
WIndows Server 2003	Y	Y	Y	Y
Windows 2000 Server	Y	Y	Y	Y
Windows 2000 Server + Metaframe	Y	Y	Y	Y

[Operating Environment]
The following combinations of operating system and Citrix MetaFrame are supported:

[Windows 2000 Server /Advanced Server]
1. Windows Terminal Service (RDP protocol)
2. Citrix Presentation Server 4.0/4.5

[Windows 2003 Server]
1. Windows Terminal Service (RDP protocol)

Citrix Presentation Server 4.0/4.5

Macintosh:

	DDST	PostScript3	Mac Driver.
Mac Os 8.6 – 9.2 (OS X Classic)	No	No	No
Mac OS X Native (v. 10.2.8 – 10.4)	Yes	Yes	Yes

Mac OS X v10.0.x is not supported

UNIX:
Not Supported

Novell Netware:
Not Supported

SAP R/3 environments (DT v006):
Not Supported

OS/400 HPT
Not Supported

Printing Functions:

Job Spool	N/A
Sort	N/A
Sub Paper Size	Yes*1
Extend A4Width	Yes*1
Adjustment Registration	Yes
Adjustment Color Registration	Yes
Adjustment Image Density	Yes
Blank Page Print	Yes*1

*1 G184 only

Drivers:

	DDST (GDI)	PCL 5c	PCL 6	Postscript3	
				Windows 2000 / XP / Visita	Mac OS X
Job Binding	No	No	No	No	No
Send to Document Server	No	No	No	No	No
Sample Print	No	No	No	No	No
Locked Print	No	No	No	No	No
Reduce/Enlarge (Scaling)	Yes	Yes	Yes	Yes	Yes
Reduce/Enlarge Centering	No	No	No	No	No
Collate	Yes	Yes	Yes	Yes	Yes
Layout (N-up)	Yes	Yes	Yes	Yes	Yes
Poster	No	No	No	No	No
Duplex	Yes	Yes	Yes	Yes	Yes
Punch	No	No	No	No	No
Staple	No	No	No	No	No
Front Cover Sheet	Yes	Yes	Yes	Yes	Yes
Front and Back Cover Sheets	No	No	No	No	No
Slip Sheet	No	No	No	No	No
Chaptering (Page Layouting)	No	No	No	No	No
Chaptering (Single Page Inserting)	No	No	No	No	No
Chaptering (Page Block Inserting)	No	No	No	No	No
User Defined Pages	No	No	No	No	No
Tab Stock Printing	No	No	No	No	No
Mirror Image Print	No	No	No	Yes	Yes
Negative Image Print	No	No	No	No	No
Dithering	Yes	Yes	Yes	Yes	Yes
Edge Smoothing	No	No	No	No	No
Toner Saving	Yes	Yes	Yes	Yes	Yes
Watermark	Yes	Yes	Yes	Yes	Yes
Form Overlay	No	No	No	No	No
Header/Footer	No	No	No	No	No
Adjust image position	No	No	No	No	No
Binding Margins	No	No	No	No	No

User ID	No	No	No	No	No
User Code	No	No	No	No	No
Rotate Print	Yes	Yes	Yes	Yes	Yes
Reverse Order Print	No	No	No	Yes	Yes
Do not print Blank pages	No	No	No	Yes	Yes
Edge to Edge Print	No	No	No	No	No

Copier Features

General Features				
	1st copy speed		Platen/ADF	B&W: 30sec. FC: 30 sec.
	Maximum original size		Platen	A4 (210 x 297mm) / Letter (215.9 x 279.4mm)
			ADF	A4 (210 x 297mm) / Letter (215.9 x 279.4mm) Legal (215.9 x 355.6mm)
	Copy Speed	Single Document Multiple Copy	Platen	G181: Mono: 16cpm (A4), 16.5cpm(LT) / FC: 16cpm (A4), 16.5cpm (LT) G183 / G184: Mono: 20cpm (A4), 21cpm(LT) / FC: 20cpm (A4), 21cpm (LT)
			ADF	G183 / G184: Mono: 20cpm, FC: 20cpm (A4), Mono: 21 cpm, FC: 21cpm (LT)
		Multiple Document Single Copy	ADF	G183 / G184: Mono: 20cpm, FC: 10cpm
	Multiple copy			Up to 99
	Resolution (H x V)	Scanning		600 x 600 dpi (Flatbed), 600 x 300dpi (ADF)
		Printing		600 x 600dpi
	Grayscale			256 levels
	Reduction / Enlargement		Fix	US: 50, 65, 78, 93, 129, 155, 200, 400% EU: 50, 71, 82, 93, 122, 141, 200, 400%
			Custom	25 – 400% in 1% steps
	Image density adjustment			Yes, Manual only: 5 levels
	Copy mode (Image quality mode)			Text / Photo / Mixed
	Memory copy			Yes
	Duplex copy			No
	Interrupt copy			No
	Combine copy			2 in 1, 4 in 1 (Only ADF)
Enhanced Features				
	APS/AMS			No / No
	Auto Tray Switch			No
	Directional Magnification			No
	Directional Size Magnification			No
	Photo Mode			Yes
	Auto Start			No
	User Program			No
	Electronic Sorting			Standard (collation, ADF only)
	Image Rotation			No
	Series Copy			No

FAX Features

Fax Features		
General Features		
Circuit		PSTN/ PABX
Compatibility		ITU-T G3
Communication Mode		T.30
Document Size	ADF	Width: 139.7-215.9mm (5.5” - 8.5”), Length: 139.7-355.6 mm (5.5” - 14”)
	Platen	Width max: 216 mm (8.5"), Length max: 297 mm (11.7")
Scanning Width		Max. 210 mm (8.3")
Printing Width		Max. 208 mm (8.2")
Resolution (H x V)		200 x 100dpi, 200 x 200 dpi 8 x 3.75 l/mm, 8 x 7.7 l/mm
Coding System Compression Method		MH/MR/MMR
Scanning Speed		Less than 5 sec. (A4 SEF, 200dpi)
Modem Speed		Automatic Fallback: 33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, 2400bps
Transmission Speed		Approx. 3sec *ITU No.1chart, Compression : MMR, Resolution : Standard speed: 33.6kbps
SAF Memory		100page (ITU No.1 chart, Compression : MMR, Resolution: Standard)
Memory Backup		1 hour
Smoothing		Yes
TTI,CSI		Yes
One Touch Dial		20 locations
Speed Dial/Group Dial		50 locations / No
Keystroke Program		No
Redial		Yes
AI Short Protocol		No
Direct FAX Number Entry		Yes
Dual Access		No
User Code		No
Label Insertion		No
Auto Document		No
Wild Cards		No
Summer Time (Day Light Saving Time)		No
ID Code Programming		No
Programming by OMR		No
User Function Key		No
Night Timer		No
Time Indicator		Yes
User Parameter Setting		No
Internet FAX		No
PC FAX		No

Local Storage	No
Contrast Control(Density)	3 level Light/ Normal/ Dark (manual setting)
Broadcasting	100 stations
Automatic redial	5/4/3/2 times after 5 minutes (Default 5 times)
Auto Answer	1-99 rings (Default ~~2~~ 3 rings)

Transmission features	
Immediate Transmission	Yes
Memory Transmission	Yes
Color Fax	No
Serial Broadcasting	Up to 100 locations
Send Later	No
Error Correction Mode	Yes
Page Retransmission	No
Economy Transmission	No
Forwarding (to another fax machine)	No
Forwarding (to email address)	No
Priority Transmission	No
Batch Transmission	No
Parallel Memory Transmission	No
Book Fax	No
Transmission Deadline	No
Closed Network (transmission)	No
Confidential Transmission (ID)	No
Transfer Request	No
Transfer Transmission	No
Multi-step Transfer	No
Polling Transmission	No
Double Sided Transmission	No
Transmission Reserve	No
Well log Transmission	No

Reception Features	
Automatic Reception	Yes
Manual Reception	Yes
Substitute Reception	Yes
Authorized Reception	No
Multicopy	No
Memory Lock	No
Confidential Reception	No
Closed Network	No
Polling Reception	No
Poll later	No
Polling from Memory	No
Multi-polling Reception	No
Continuous Polling	No
Reception Time Printing	No
Center Mark	No
Checkered Mark	No
2 in 1	No
Image Rotation	No
Image Reduction	Yes
Economy Printing Mode	No
Duplex Printing	No

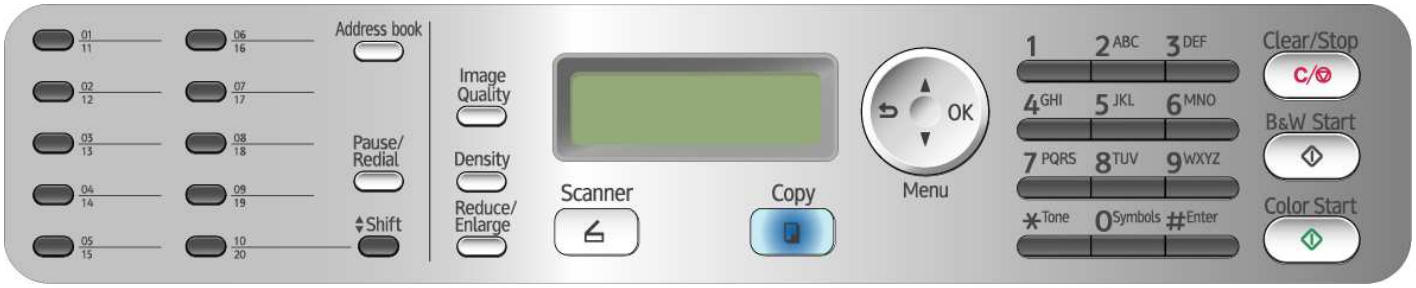
Telephone Features	
Handset / Telephone	No
Telephone Connection	Yes
Monitor Speaker	Yes
Automatic Voice Message	No
Voice Request	No
On Hook Dial	Yes
Tone Transmission	Yes
Pause	Yes
Pulse/ Tone Selection	Yes
Chain Dialing	No
Automatic Fax/ Phone Change	Yes
Reception Mode Switch Over (remote)	No
Answering Machine Interface (FAX/TAD)	Yes
Reception Mode Switching Timer	No
Busy Tone Detection	Yes

Silent Ringing Detection (1300hz/ 16hz)	No
Dial Tone Detections	Yes

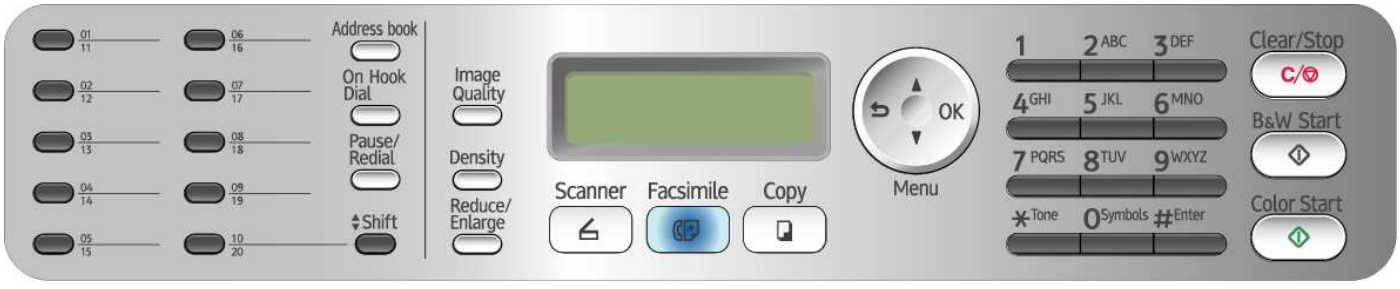
Scanner Features

Scanner Features		
General features		
Scanning Device		CCD array image-sensor
Resolution		Scanner: 1200 x1200 dpi
		Driver: Max. 19200 x 19200 dpi (interpolated)
Gray scale		256 levels
Scan modes/ speed (A4, 300dpi, USB2.0)		●ADF Black&White: less than 5 sec. / Gray Scale: less than 5 sec. / Color: less than 10 sec ●Platen Black&White: less than 5 sec. / Gray Scale: less than 5 sec. / Color: less than 10 sec
Maximum original size	Platen	Width max: Up to 216mm, Length max: Up to 297mm
	ADF	Width max: Up to 216mm, Length max: Up to 356mm
Scan Depth		48bit color processing (input), 24bit color processing (output)
PC Interface		USB2.0, 10/100Base-TX
TWAIN Compliant		TWAIN, WIA
Scanner utilities & Drivers		TWAIN Driver, Scanner utility (PageManager)

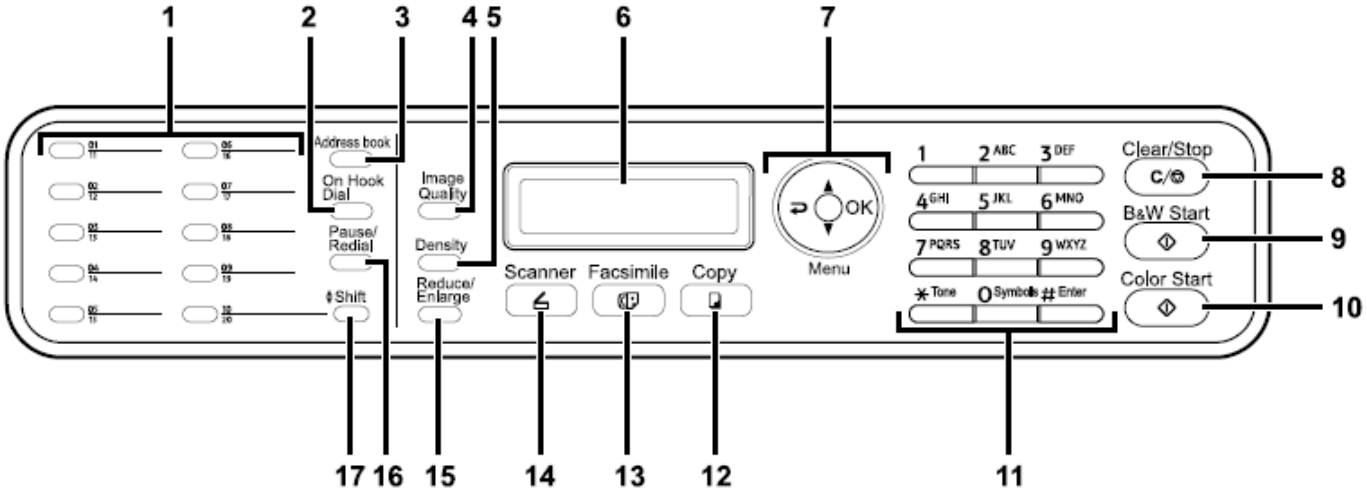
II. Operation Panel



G181



G183 / G184



1. **One Touch Buttons**

Press to select a scan or fax destination using entries registered as Quick Dial in the Address Book.

2. {**On Hook Dial**} **key (G183 G184 models only)**

Press to use on-hook dialing to check the destination's status when sending a fax.

3. {**Address book**} **key**

Press to specify destinations from the entries in the Address Book when sending a fax or scanned file.

4. {**Image Quality**} **key**

Press to select quality for scanning the original for the current job.

- Copier mode: select Text, Photo, or Mixed.
- Scanner mode: select the resolution.
- Fax mode: select Standard, Fine, or Photo.

5. {**Density**} **key**

Press to adjust color tone for scanning the original for the current job.

- Copier mode: select from 5 levels of density.
- Scanner mode: select from 5 levels of density.
- Fax mode: select from 3 levels of density.

6. **Screen**

Displays current status and messages.

7. **Menu keys**

Press any of these four keys to enter the menu for configuring the machine.

- {↩} key

Press to exit to the previous level of the menu tree.

- {s} {t } keys

Press to scroll through the current level of the menu tree. When entering characters, press the {s} or {t } key to move the cursor left or right, respectively.

- {**OK**} key

Press to confirm settings or enter the next level of the menu tree.

8. {**Clear/Stop**} **key**

- While the machine is processing a job: press to cancel the current job.

• While configuring the machine: press to cancel the current setting and return to standby mode.
• While in standby mode: press to cancel temporary settings such as image density or resolution.

9. {**B&W Start**} **key**
Press to scan or copy in black and white, or start sending a fax.

10. {**Color Start**} **key**
Press to scan or copy in color.

11. **Number keys**
Use to enter numerical values when specifying settings such as fax numbers and copy quantities, or enter letters when specifying names.

12. {**Copy**} **key**
Press to switch to copier mode. The key stays lit while the machine is in copier mode.

13. {**Facsimile**} **key**
(Type 2 and Type 3 models only)
Press to switch to fax mode. The key stays lit while the machine is in fax mode.

14. {**Scanner**} **key**
Press to switch to scanner mode. The key stays lit while the machine is in scanner mode.

15. {**Reduce/Enlarge**} **key**
• Copier mode: press to specify the reduction or enlargement ratio for the current job.
• Scanner mode: press to specify the scanning size according to the current original.

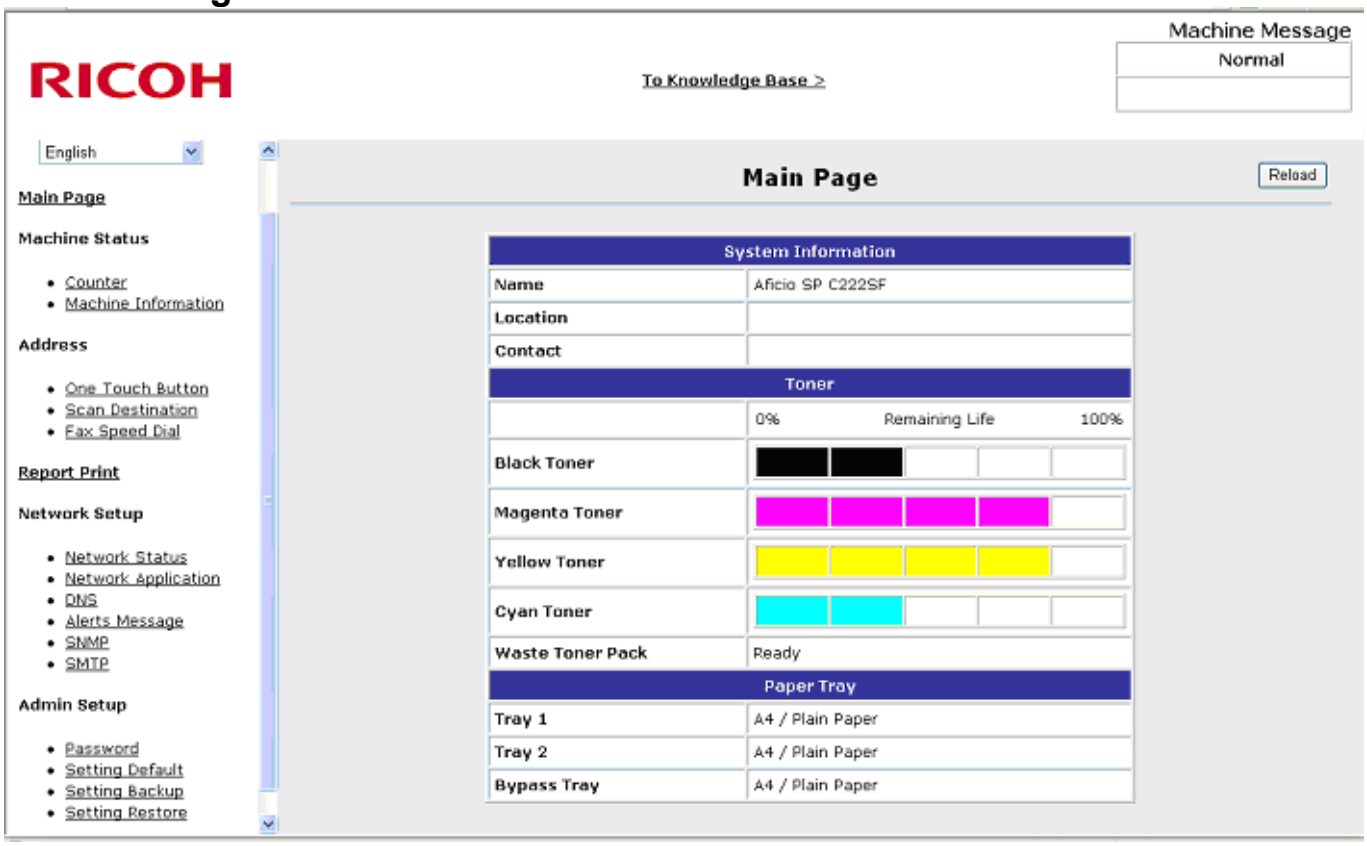
16. {**Pause/Redial**} **key**
• Pause
Press to insert a pause in a fax number. The pause is indicated by “P”.
• Redial
Press to display the last used scan or fax destination.

17. {**Shift**} **key**
Press if you want to use Quick Dial entries Nos. 11 to 20 when specifying a scan or fax destination.

The back light of the screen is turned off when the machine is in Energy Saver mode.

When the machine is processing a job, you cannot enter the menu for configuring the machine even if you press a menu key. You can confirm the machine's status by checking messages on the screen. If you see messages such as “Printing”, “Copying”, or “Processing”, wait until the current job is finished.

III. Web Image Monitor



G181, G183, G184 supports embedded web tools consisted of “machine status”, “Remote setup”, “report print”, “e-mail alert’ and so on. Using these tools, network administrator can get detail information of printer and operate the printer remotely.

Displayed in 16 languages:
English/German/French/Italian/Spanish/Dutch/Swedish/Norweigian/Danish/Finnish/Portugese/Czech/Hungarian/Polish/Russian/Chinese (Simplified)

Features and Benefits

Machine status: You can check machine status such as remaining toner. You can also check the paper size and media type, counter and system version etc via web browser.

Address: You can maintain various address books such as “One Touch Button”, “Scan Destination” and “Fax Speed Dial”.

Remote setup: You can setup network setting such as “IP address” and several network settings.

Report print: You can remotely print several report and list.
The items are the same as those available on a control panel.

E-mail alert: Network administrator can get information by e-mail such as No Toner, Service Required Call, and so on. So they can be notified with push-information and manage network devices efficiently.

Menu of the Web Page>
Following is the list of Web Page

=Status check only

=Can change the setting

Function	Item	Sub Item
Top		Logo
		LCD message
		Web Language
Main Page	System Information	Name
		Location
		Contact
	Toner	Black Toner
		Magenta Toner
		Yellow Toner
		Cyan Toner
		Waste Toner Bottle
	Paper Tray	Tray 1
		Tray 2
		Bypass Tray
Machine Status	Counter	Page Counter for Each Function
		Printer Counter
		Coverage
		Both Sides
	Machine Information	Model Name
		Firmware version
		Engine FW version
		PCL Version (model c)
		PS Version (model.c)
		PDL Firmware Version (model.c)
		Serial Number
		Fax Card
		Total Memory
Address	Add New Type	New Type: E-mail, FTP, Folder, Fax
	One Touch Button	Scan Quick Dial
		Fax Quick Dial
	Scan Destination	Scan to E-mail
		Scan to FTP
		Scan to Folder
	Fax Speed Dial	
Report Print		Configuration Page
		Activity Report
		Memory List
		Quick Dial List
		Speed Dial List

		Scan Destination List
		Scan Transmission Log
		Maintenance Page
Network Setup	Network Status	Link Status
		Printer Name
		Network Version
		MAC Address
		DHCP (enable/disable)
		IP Address
		Subnet Mask
		Gateway
		NetBIOS Status
		Computer Name
		Workgroup Name
	Network Application	Scan to E-mail enable, Mail Size
		Scan to FTP enable
		Scan to Folder enable
		IPP Print enable
		FTP Print enable
		RAW Print enable, Port Number
		LPR Print enable
	DNS	DNS method: auto/ Manual
		Primary DNS Server
		Secondary DNS Server
		Domain Name
		DNS Timeout
		Host Name
	Alert Message	Alert 1
		Alert 2
	SNMP	SNMP enable, disable
		Target Trap enable, disable
		Management Host 1
		Management Host 2
		Get Community
		Trap Community
		System Location
		System Contact
	SMTP	Primary SMTP Server
		Port Number
		Authentication Method
		User Name
		Password
		System Admin E-mail
		Timeout
Admin Setup	Password	
	Setting Default	Clear Network Settings
		Clear Menu Settings

		Clear Scan Destination
		Clear Fax Dial/ Speed Dial
	Setting Backup	Network Settings Backup
		Menu Settings Backup
		Scan Destination Backup
		Fax Quick Dial/ Speed Dial Backup
	Setting Restore	

IV. Printing Features:

Adjustment:

-Paper Registration Yes (by operation panel)
-Image Density Yes (Auto)

Automatic adjustment runs in the following situation:

1. When power switch is turned ON
2. Before printing a new job after printing more than 200 pages
3. When there is a drastic change in environmental atmosphere

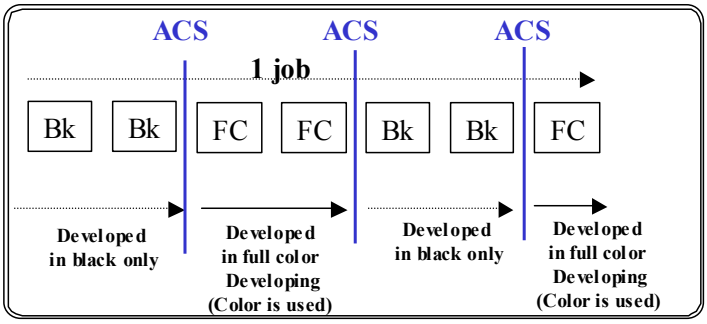
-Color Registration Yes (by operation panel and Auto)

Automatic adjustment runs in the following situation

1. When power switch is turned ON
2. Before printing a new job after printing more than 100 pages
3. When there is a drastic change in environmental atmosphere

Sort (Collate): Yes
Rotated Sort: No
Edge Smoothing: No
Sample Print: No
Locked Print: No
Slip Sheet: No
Correcting the Color Gradation: No
Auto Color Sensing (ACS): Yes (Default: On)

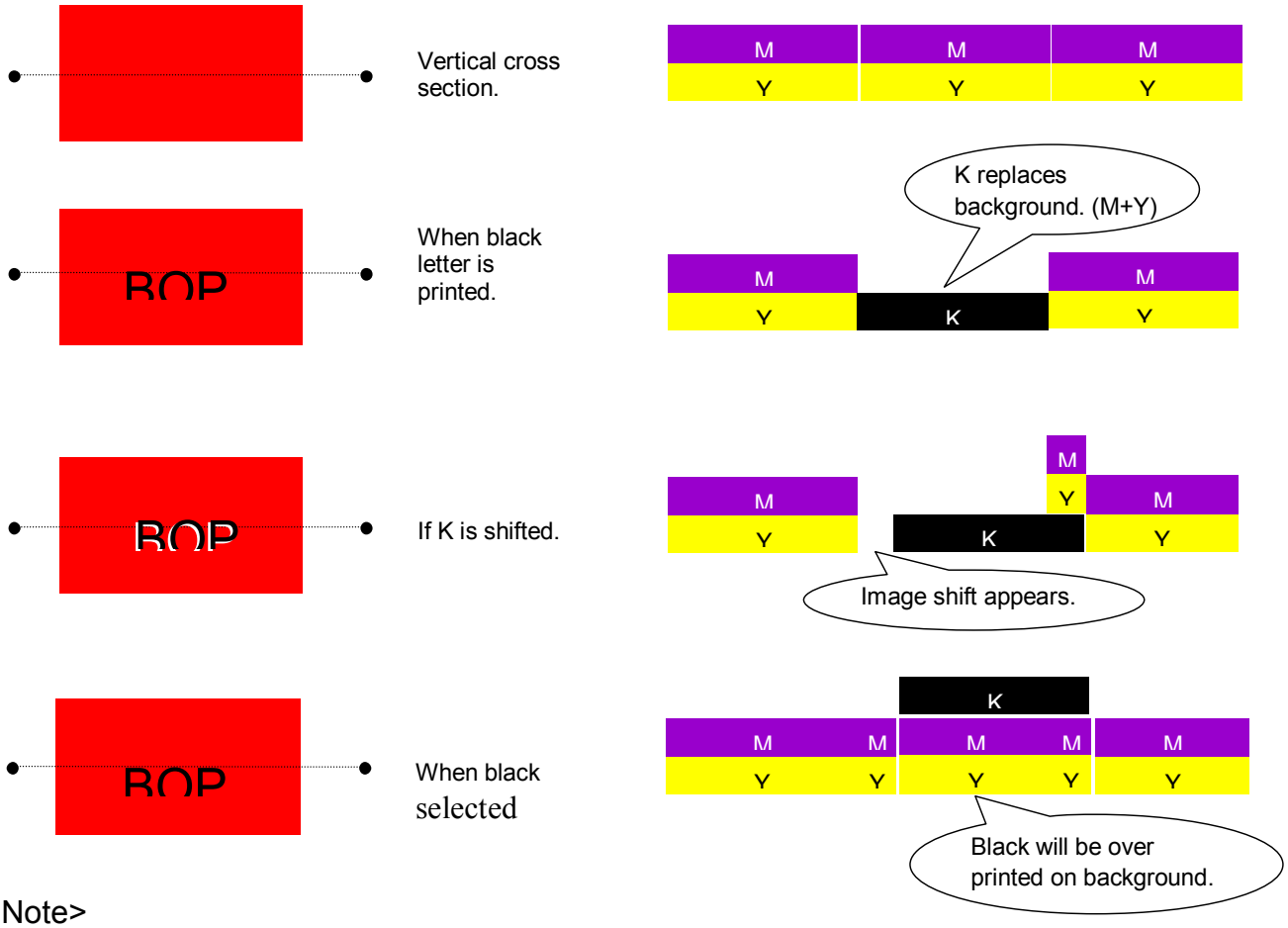
In case of printing color / monochrome mixed document, printing speed is automatically switched between color pages and monochrome pages



<Note>
1.There is no effect on yield of consumables
2.Time to switch printing mode: Mono <> Color: 7sec.

Black Over Print: Yes (Default: G181 / G183: Off, G814: On(PS driver), Off(PCL driver))

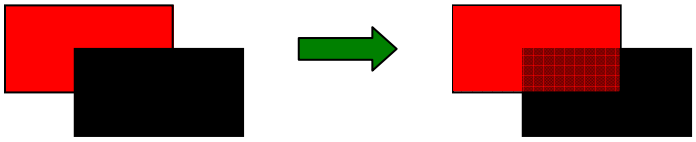
It improves print image quality of text on color background. By using Black Over Print, black text and graphics are rendered over the background (solid color, blend, or Image) as overprint. This function prevents unpleasant results such as haloing regardless of application.



<Note>

As a side effect, in case that user overlaps a black object on a colored object in application, there is a possibility that a background of overlap may be seen through when printing.

<On Display> <Output>



<Workaround>

User can avoid this phenomenon to set “Black Over Print” up as “Off

Auto Tray Select: Yes

When a print job is specified while auto-paper select is enabled, printer selects a tray which loads papers to match specified paper type and size. If more than one tray meet the conditions, printer searches the tray in the order described below under "Order of Paper Selection."

Order of paper selection:

Printer starts searching papers from Priority Tray.

As the basic rule, if the Priority Tray has no paper to match the specified size and type (both paper size and paper type should be matched), printer selects the paper with the second priority Tray.

Printer searches the paper one by one when searching for the paper to match the specified conditions. Therefore, if printer finds the paper to match the conditions in the tray with higher priority while processing a job, printer starts feeding the paper from this tray.

Bypass Tray supports any-size and any-type setting. If printer cannot find an appropriate tray, Printer search any-size and any-type setting tray.

Priority Tray can be selected by utility but only available for G184.
Priority Tray is always tray 1 in G181 / G183.

Tray Lock: No
Auto Tray Change: Yes

(Limitless Paper Supply)
When the paper runs out in the current tray while printing is in progress, the printer searches automatically for another tray that contains the same size, the same direction and the same media type.

Sub Paper Size Setting: Yes (Default: OFF)
(A4 <-> Letter Override only)

When "A4 size job" is sent to printer controller and A4 size paper is not loaded in any paper trays but Letter size paper is found, printer controller automatically feeds the Letter size paper as "Sub Paper Size" and prints. In case of "Letter size job" is sent, A4 paper is fed in the same manner.

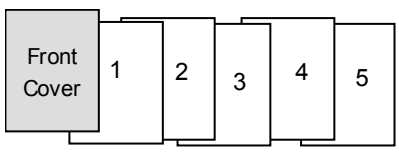
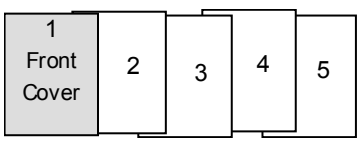
When a paper tray is specified, paper is fed from the tray if the tray loads A4 or Letter size paper. If not, printer controller asks to load the paper to the tray in case of "Auto Continue" is off.

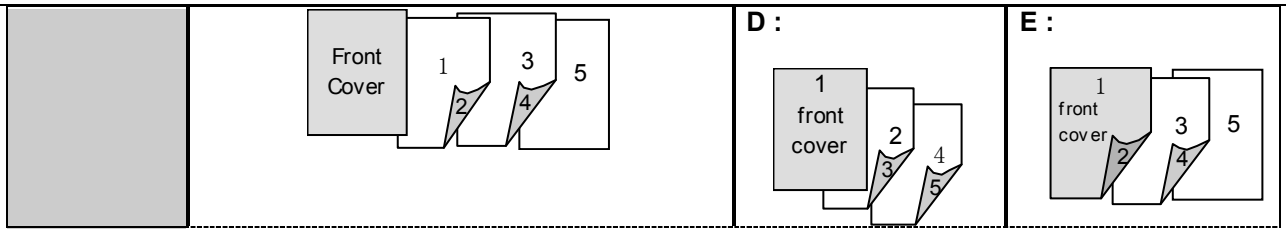
When the "A4 <-> Letter Override" functions, no "print area adjustment" is done (just print the original image on the Sub Paper"), therefore there may be lack of print image on each edge. The printer controller shifts print image (Centering) to minimize the lack of print image.

Cover Sheet: Yes

Printer feeds paper for front cover at the beginning of a job or at the top of the set, from a tray specified for front cover sheet.

<The table shows available patterns for a 5-page job>

<table>
<tr><th></th><th>Not print on front cover sheet</th><th colspan="2">Print on front cover sheet</th></tr>
<tr><td>Simplex</td><td>A :
 
</td><td colspan="2">C :
 
</td></tr>
<tr><td>Duplex</td><td>B :</td><td>Front cover sheet, 1-sided</td><td>Front cover sheet, 2-sided</td></tr>
</table>



Letterhead Mode: Yes

This feature controls printing on preprinted paper such as letterhead, so that the print image does not interfere with the preprinted materials such as the logo.

Features to control printed side

When printing in duplex by engine that is capable of outputting the paper face-down without running paper to duplex unit after the image is transferred to the sheet, the image on the back side of the page is transferred onto the sheet first. The image on the front side is processed after the backside.

Therefore, when printing a duplex job using letterhead sheet with preprinted material just on one side of the sheet, the preprinted side appears on odd-number pages (pages 1, 3, 5, ...); set letterhead sheets face-down.
If the end of a duplex job is on an odd-number page, the last sheet of this job is to be one-sided. However, since this type of engine prints the back side first, the last page is printed on the back side of the last sheet.

Letterhead Mode avoids this problem by running the last page of a duplex job through the Duplex Unit, so that the front side of a sheet is always an odd-number page.

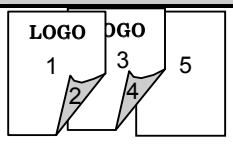
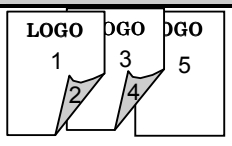
Letterhead Mode is unnecessary for the engine that transfers the image face-up, since this type of engine prints the front side first.

Note that the papers are not feed from a tray which duplex is disabled; even letterhead papers are not allowed to go to Duplex Unit.

Note: In Letterhead mode, even one-page job is printed out through the Duplex Unit

< Example > The table below shows the examples of Letterhead Mode printing for 5-page jobs.

V.

	Normal	Letterhead Mode
Duplex		
	The last page is printed on the back side of the last sheet.	Front side of a sheet is always an odd-number page.

Scanning Features:

TWAIN scan

Model G181 / G183 / G184 provides Color / Black & White Scanner feature. Through the TWAIN driver on windows PC and Macintosh users can save the scanned data in the PC.

<Twain Driver + Twain scanning applicable application>
You are able to scan the document by using the TWAIN driver with your application that has TWAIN scanner capability.

Feature	Specification
OS	Windows 2000/XP/2003 server/Vista, Mac OS X 10.2.8
Interface	USB 2.0, Ethernet
Pre Scan	Yes (Flatbed Only)
Area Scan	Yes (Flatbed Only)
Resolution*1	75, 100, 150, 200, 300, 400, 500, 600, 1200, 2400, 4800, 9600, 19200 dpi, User defined
Scan Mode	True Color, Grayscale, Black & White
Contrast Adjustment *2	Yes
Brightness Adjustment	Yes
Gamma Adjustment *2	Yes
Sharpness Adjustment *2	Yes
Color / Mono Switch	Yes

*1: If paper source is “Auto Document Feeder”, you can choose only 75, 100, 150, 200, 300, 400, 500, 600dpi or “User defined”.
*2: Invalid for B&W mode.

WIA scan ((Windows Image Acquisition))

Model G181 / G183 / G184 provides Scanner feature with the WIA (Windows Image Acquisition) driver on windows PC. You can save the scanned data in the PC.

Feature	Specification
OS	Windows XP/Server 2003/Vista
Interface	USB
Pre Scan	Yes*
Area Scan	Yes*
Resolution	75, 100, 150, 200, 300, 600 dpi
Scan Mode	Color, Grayscale, Black & White, Text, Custom

*Note: Capability of scanning from ADF depends on OS and WIA (Windows Image Acquisition) application. It is possible either on Windows Vista environment or by using “PageManager”.v

Scan to E-mail

Model G181 / G183 / G184 distributes documents directly to e-mail via SMTP protocol.
It does not require any dedicated server or software to be installed.
Scan to e-mail is user-friendly document distributing solution. Scanned documents are directly sent to e-mail address over Internet or Intranet.

Easy Operation: Operation of scan to e-mail is almost same as that of fax function.
Security: Unlike fax transmission, scanned documents are directly sent to individuals.
Cost Cutting: Customer can cut transmission cost by sending data over Internet/Intranet.
Easy Maintenance: E-mail address book can be managed through Web Image Monitor

Feature	Specification
Requirement	SMTP Gateway and TCP/IP
Authorization Function	SMTP authentication, POP before SMTP
Resolution	100, 150, 200, 300, 400, 600 dpi
Register E-mail Address	By Embedded web tool (Max: 100 address)
Destination	By operation panel
Maintain E-mail Address	By Embedded web tool
Search	By profile name
Input Subject	64 characters by Embedded web tool
Maximum Data Size	1 to 5 MB or unlimited
File Format	TIFF, JPEG, PDF

Scan to Folder

Model G181 / G183 / G184 distributes documents directly to SMB server.

Benefits for Scan to SMB server

1. Minimum investment:
   1) No additional software or hardware investment necessary.
   2) Utilize exiting LAN or WAN network infrastructure.
2. Security:
   1) Send documents directly to receiver's folder.
   2) Client folder protection function is available to prevent from document being sent by unauthorized sender.

Scan to FTP server

Model G181 / G183 / G184 distributes documents directly to FTP server.

Major benefits for Scan To FTP

1. Heavy files can be easily shared between remote offices.
2. Scanned documents can be downloaded as long as users are in the same LAN/WAN network.
3. Mix OS environment: LINUX, UNIX and MAC OS can browse the FTP directly and access to the same scanned documents.
4. User can add and delete scanned documents from FTP server

<Specification of "Scan to Folder" and "Scan to FTP">

Feature	Specification
Protocol Support	SMB (Server Message Block), FTP (File Transfer Protocol)
Resolution	100, 150, 200, 300, 400, 600 dpi
Register client folder address	By Embedded web tool (Max: 100 address)
Destination	By operation panel
Maintain client folder address	By Embedded web tool
Search	By profile name
File Format	TIFF, JPEG, PDF

VI. Dynamic DNS support

Not Supported

VII. PANTONE support

Model G184 is planned to be supported.

1. What is PANTONE Support?

PANTONE is the one of the standard color of special ink industry.
PANTONE has more than 3,000 colors, but it is impossible to reproduce all PANTONE color with CMYK printer. In order to reproduce on a printer, PANTONE defined 1089 colors, which is called PANTONE Process Color System, for CMYK printer.
The printer that has custom CMYK data for the optimal reproduction of 1089 colors is generally called PANTONE supported printer.

2. Requirements

Item		Remarks
Supported PDL	PostScript3	
OS	Windows: Windows 2000, XP, Vista Macintosh: Mac OS X version 10.2 and later	
Supported application	Adobe Illustrator 9.0, 10.0, CS, CS2 Adobe Photoshop 6.0, 7.0, CS, CS2 Adobe In Design 2.01, CS, CS2 QuarkXPress 4.11, 5, 6 Macromedia FreeHand 10, MX CorelDRAW Graphics 10, 11, 12 Corel Designer 10, 11, 12	* In addition to these applications, it is possible to use Pantone color from the other applications.

3. The Contents of the Release Package

Color palettes
For Illustrator, Indesign, Photoshop, Corel Designer, Corel Draw, Freehand and QuarkXpress

Color charts (EPS and TIFF file)
For the application that supports PANTONE color charts.

Text Format (ASCII)
For the application which does not support color palettes or color charts.
Calibrated Look-up table (PDF)
Setting Information (TXT.)
Manual (PDF)

4. How to use it?

By importing color palette files to the specified desktop publishing application software, you can generate the optional reproduction of PANTONE colors with this printer.
Select the color with the dedicated PANTONE palettes of the printer from the application.

5. Target User of PANTONE Function

Business creative users in General office

Using graphic application (ex. Adobe software)
Printing company logo

<Notes>
Professional user (graphic arts) including propose of color proof is out of our target because color laser printer may not reproduce the PANTONE color accurately.

6. Difference PANTONE Support and Ink Simulation with Pallet Color

You can use the function with above PANTONE support when you create new files.
However, this function does not affect the existing files. If you want to print the existing files with similar PANTONE color, you can do with printing them with Palette Color of PS driver.
A Color reproducibility of PANTONE support is more precise than that of Pallet Color.

<Notes>
Although you select the same PANTONE color, Color reproduction of both methods does not exactly the same.

VIII. Color Simulation Support

1. CLP simulation

Not supported

2. Ink Simulation – US Offset Print (SWOP emulation)

Available with PS driver (G184).
Color profile that simulates color reproduction of commercial offset printing. SWOP is industry standard in North America for CMYK ink and its color reproduction.

3. Ink Simulation – Euro scale

Available with PS driver (G184).
Color profile that simulates color reproduction of commercial offset printing. Euro scale is industry standard in Europe for CMYK ink and its color reproduction.

Location of menu:
PS: [Print Quality] – [Manual/Advanced]-[CMYL simulation Profile]

<Note>
Color and tone range that can be reproduced by offset printing press is wider than that of Color Laser Printer. Therefore the Ink Simulation function does not match color perfectly to SWOP and Euro scale.

4. Ink Simulation – Palette Color

Available with PS driver (G184).
Color profile that simulates color reproduction of PANTONE. PANTONE is one of the standard ink industry.

Location of menu:
PS: [Print Quality] – [Manual/Advanced]-[CMYL simulation Profile]

<Note>

This is not officially supported by PANTONE. Color and tone range that can be reproduced by offset printing press is wider than that of Color Laser Printer. Therefore this function does not match color perfectly to PANTONE.

IX. @Remote

Not supported
Although, has standard MIB information. Can receive equal information as HP CLP series.

X. User Account Registration

Not supported

XI. Printing in non-Windows environment (Using Connectivity Tools)

1. Printing on Unix/Linux platform

Not supported

2. Printing with CUPS (Common UNIX Printing System)

Not supported

3. Printing in SAP/R3 Environment

Not supported

4. Novel NDPS Gateway

Not supported

5. IBM AS/400 HPT Printing Support (using HP MFTYPMDL and WCO)

Not supported

6. Printing on Citrix Presentation Server (Formerly Citrix Metaframe)

Supported

Citrix Presentation Server is a remote access application publishing product that allows user to connect to application available from central servers.
One advantage of publishing applications using Presentation Server is that it lets people connect to these applications remotely. Lately it has started to be know as one system archetecture which can implement thin client.

Server Based Computing (SBC) has been gotten highly attention from the system management viewpoint. Meta Frame™ gets 80% of share on this SBC market according to Citrix®,
The benefit of Server Based Computing is that the system simplify IT managers' task.

Installing application software and/or device driver, IT manager (IT support stuff) must install them to all clients PCs, for example. Under SBC environment, installation is only for the server side. It is also the benefit of SBC that securing data from simple mistake of client PC user. Making access limitation, creating firewall, introducing virus countermeasure and other security steps are taking to protect data. However, if the client PC, especially laptop, is stolen, all-important data in the unit is completely stolen. This incident cannot be protected by any IT countermeasures.

This MetaFrameTM has its own unique printer function.

For the user there is limitation of printer option device management with this standard function. The printer option device limitation means that options that are installed on a printer cannot be utilized. Printer options cannot be utilized means that commonly used printer functions at an office are not available. For example; Duplex option for both sides printing, additional optional paper tray to keep absolute quantity and variety kinds of paper finisher for making documents with staples, or making a punch hole to binding documents.

XII. Page Manager (Bundled Utility Software)

PageManager is general-purpose software and provides easy-to-use document management solution.
The user can store their scanned documents on disk, or organize them for fast retrieval and management. PageManager can also create PDF files from other formats or directly convert multiple document and image files into a single PDF file.
Please see their web sites for more details.
http://www.newsoftinc.com/

Launcher for scanning function (Scan Central)
This launcher provides a simple user interface to perform frequently executed processes that combine four tasks together
By providing this interface, the customers can use push-scanning functions more easily.
The default setting of four tasks is “Scan to file”, “Scan to E-mail”, “Scan to Application” and “Scan to OCR”.
Users can customize this interface using “Setting Button” and meet their preferences.

By clicking on the “Device Status and settings” button on the top right corner, users can also launch Web Page that allows user to check a machine status or do some settings.
(Please also refer to section4. “Embedded web tools”)

(Image Draft)

Default Functions
-Scan buttons
There are four scan buttons on the launcher Window:

Scan to File: Click on the Scan to File button to scan images and save the scanned images to a preset folder.

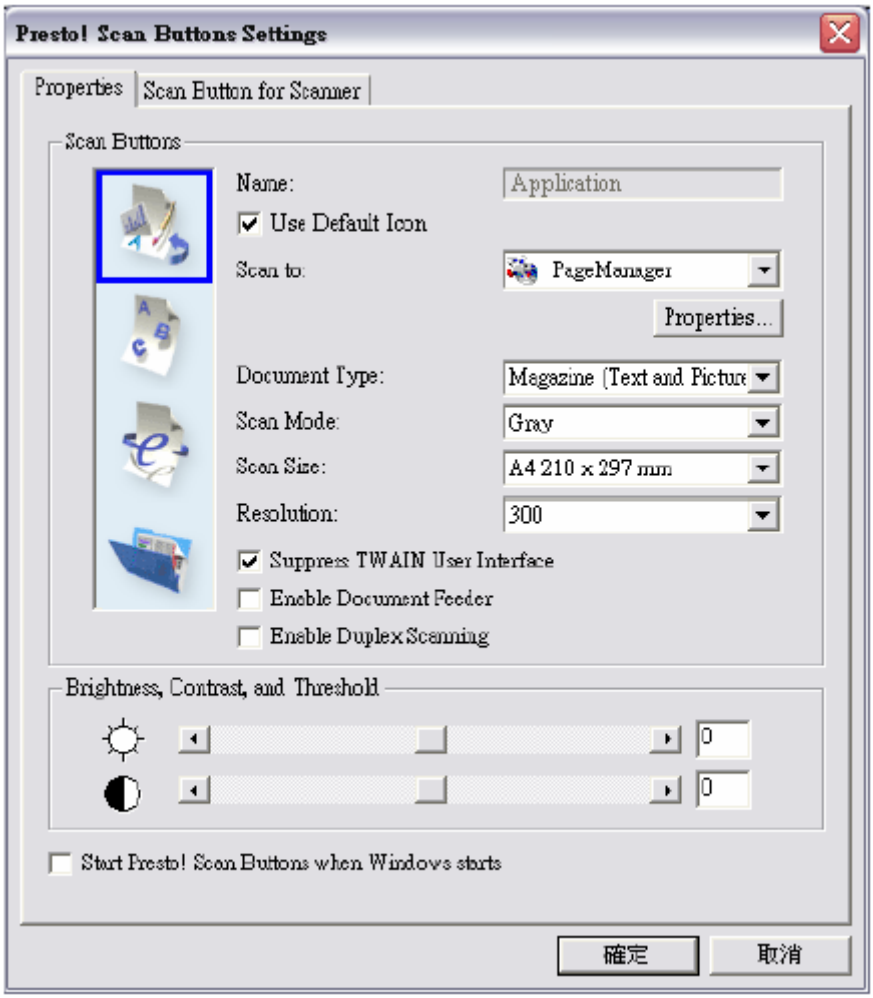
Scan to E-mail: Click on the Scan to E-mail button to scan images and pass the scanned images as attachments to a pre-selected application

Scan to Application: Click on the Scan to Application button to scan images, save it to a file, and pass the file to pre-selected application.

Scan to OCR: Click on the Scan to OCR button to scan images and pass the scanned images to pre-selected OCR application. The images will be put in a folder defined in the scan setting of PageManager.

-Setting Button

Click on the Setting button will bring up the setting dialog box.



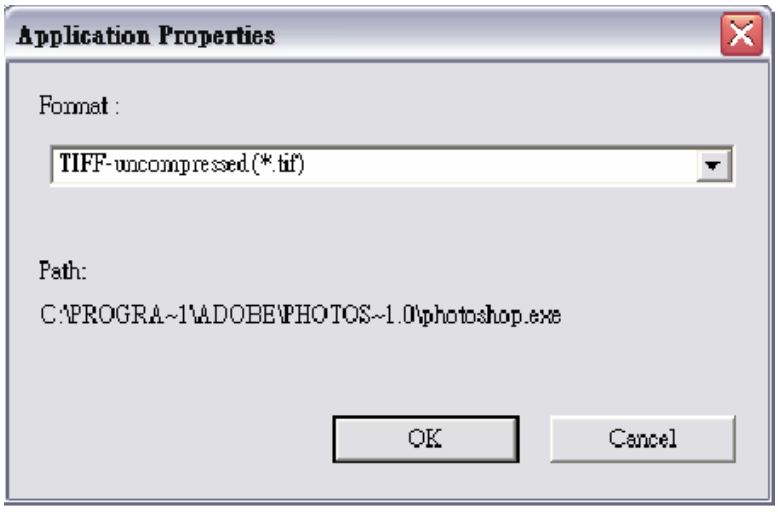
Please see the below chart for details about the setting dialog box.

Item	Function
Scan Buttons	Show the button icons. Choose one of the 4 buttons to show its settings on the right side. If "Use default icon" is checked, the icon is a default icon. If "Use default icon" is not checked, the icon is the icon of the application which user selected in "Scan to". When the icon is changed, it will be reflected on the Scan Buttons Window main UI.

Name	The name of the button IF "Use default icon" is checked, the name cannot be changed. They are "Application", "OCR","E-mail" and "File". If "Use default icon" is not checked, the name will be the application name. (Same as the one showed on application bar) When the name is changed, it will be reflected on the Scan Buttons Window main UI under each icon.
User default icon	If this is checked, the icon is a default icon and the Name cannot be changed. If this is not checked, the icon is the icon of the Application which user selected in "Scan to", and the name can be changed. The icon and name will be reflected on the Scan Buttons Window main UI. Default is checked.
Scan to	Select a destination application for the button from the drop down list.
Properties	Show properties dialog box of the destination application.
Document type	The document type of image
Scan mode	The color of image, color/gray/B/W
Scan size	The size of image
Resolution	The resolution of image, the image is clearer when the number is bigger.
Suppress TWAIN user interface	Will not use scanner driver's user interface. Use above scan settings
Enable document feeder	User can scan multiple pages from the scanner.
Enable duplex scanning	Scan double side image if the scanner support this capability.
Brightness, contrast and threshold	Brightness and contrast can apply to color and gray image. Threshold only can apply to B/W image.
Start Prest!Scan buttons when windows start	Launch Scan Central when windows start.

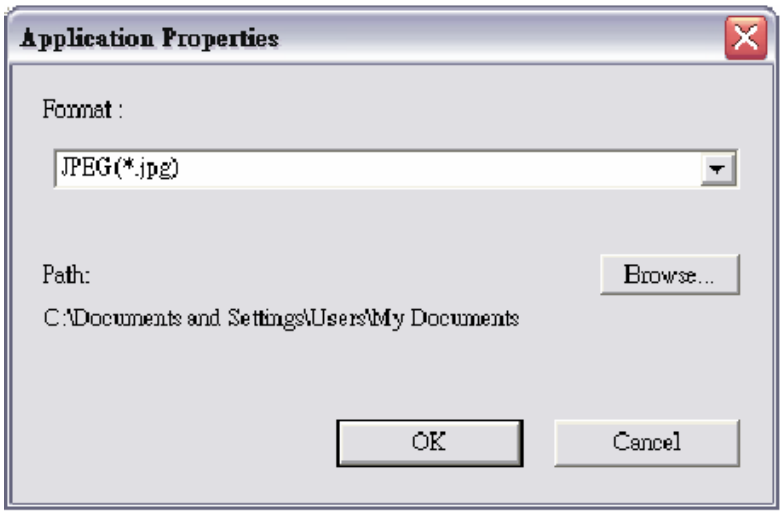
Click the Properties button would bring up Properties dialog box of the selected scan button.

Properties dialog box for Application, OCR and E-mail:



Item	Function
Format	Choose a format for the scanned images to save. The combo box lists all file formats that can be opened by the selected application.
Path	Show the path of the application.

Properties dialog box for File



Item	Function
Format	Choose a format for the scanned images to save. The combo box lists all file formats that PageManager supports.
Path	Show the path of the application
Browse	Choose a folder for scanned images to save

XIII. CD/ROM and Manual Contents

<Utilities and Drivers CD-ROM>

<Manual contents>
*Please note that below are items included in box from factory

	Contents	Language	Note
Windows	DDST Printer Driver	16 languages	For model G181 / G183
	PCL6 Printer Driver	16 languages	For model G184
	PCL5c Printer Driver	16 languages	For model G184
	PS Printer Driver	16 languages	For model G184
	USB TWAIN Driver	16 languages	
	Network TWAIN Driver	16 languages	
	Page Manager	16 languages	
	RD_SETUP	16 languages	
	ICM	Eng	
	Install Manager	16 languages	
	CD-Launcher	16 languages	
	Version.txt	16 languages	

Macintosh	DDST Printer Driver	16 languages	For model G181 / G183
	Mac OS X PPD Installer	16 languages	For model G184
	TWAIN Driver	16 languages	
	Page Manager	16 languages	
	ColorSync Profiles	Eng	
Common	Readme.txt	Eng	
	Driver Installation Guide	16 languages	
	PostScript 3 Installation Guide	16 languages	For model G184

North American Version

Paper/CD	Contents	Language
Paper	Quick Installation Guide	7 languages
	Safety Information	Eng only
	Note to Administrator	7 languages
	Control Panel Sheet	7 languages
	About the Included Stickers	7 languages
CD	User Guide (HTML)	4 languages
	User Guide (PDF)	4 languages
	Quick Guide (For model G183 / G184)	4 languages
	Quick Guide (For model G184)	4 languages
	Quick Installation Guide	7 languages
	Safety Information (For model G183 / G184)	Eng only
	Safety Information (For model G184)	Eng only

(4 Languages include: Eng, Spanish, French, Portugal)
(7 Languages include: Eng, French, Italian, Spanish, Dutch, German, Portugal)

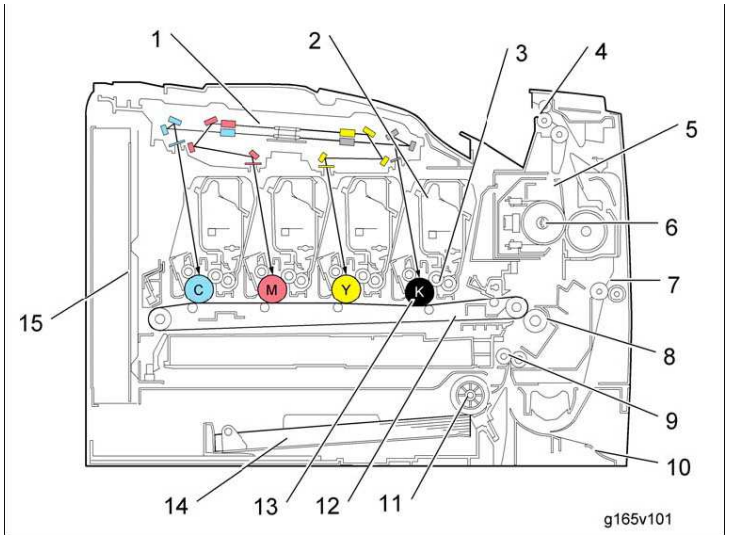
XIV. Standard Accessory List (Main Unit)

North America

	Ricoh Model	**Generic Model**
Starter Print Cartridge (CMYK: 1K)	Y	Y
Waste Toner Bottle	Y	Y
Fuser Unit	Y	Y
Driver & Utility CD-ROM (Includes Manual)	Y	Y
Power Code	Y	Y
QIG	Y	Y
Note to Administrator	Y	Y
Control Panel Sheet	Y	Y
About the Included Stickers	Y	Y
Software Installation Guide	-	-
Safety Information	Y	Y
Warranty Statement	Y	N
User Registration Card	Y	N
Help Desk Instruction	Y	N
Caution Decal	stuck on	stuck on
Panel Decal	English stuck on	English stuck on
Branding Badge	stuck on	N

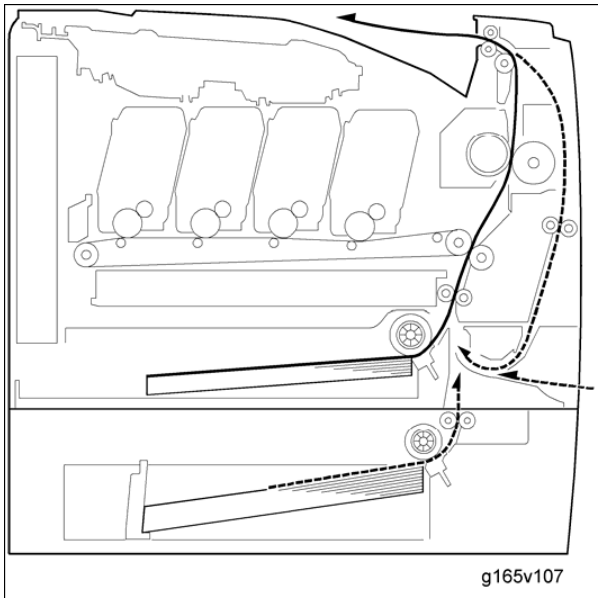
Model Name Decal	stuck on	N
Telephone cable	Y (for model G181 / G183)	Y (for model G181 / G183)
NECR (for service)	N	N

XV. Component Layout



1. Laser Optics Housing Unit
2. Print Cartridge (AIO)
3. Development Roller (AIO)
4. Paper Exit
5. Fusing Unit
6. Fusing Lamp
7. Duplex Path
8. Transfer Roller
9. Registration Roller
10. By-pass
11. Paper Feed Roller
12. ITB (Image Transfer Belt) Unit
13. OPC (AIO)
14. Tray 1
15 EGB/Controller

XVI. Paper Path (Face Down Printing)



XVIII. Process Control Self-check

This machine does potential control with a procedure that is known as the process control self-check. This procedure is done at these 7 times.

Timing	Execution Mode
1. Initial Power- ON	• Development Bias Control and MUSIC (appox. 55 seconds • MUSIC only (Approx 22 seconds) • No Execution One of the control modes is executed at each timing. What control mode is done depend(s) on some conditions as described in the Service Manual, Process Control Self Check section.
2. Recovery from Sleep Mode	
3. Front or Top Cover Open/Closed	
4. Ready Status	
5. Before Job	
6. Page End	
7. Job End	

More details of each timing is located in the service manual

XVIII. One handed replaceable AIO

This machine uses the AIO system. Each AIO consists of the waste toner tank, print cartridge part, development unit part, and PCU part. This gives the user easy replacement procedures and helps to make the engine module more compact. The waste toner bottle is smaller than other full-color printers because
the waste toner from the OPC is collected in the waste toner tank of each AIO.
The diameter of the OPC is 24 mm and the diameter of the development roller is 12 mm.

XIX. Configuration Page / Maintenance Page

Configuration Page: Press the Menu button 4 times to display the <Reports Print> and press OK twice
Maintenance Page: Press the Menu button 4 times to display <Reports Prints>, Press OK then press the Menu button once to display Maintenance report and then press OK once.

XX. Configuring the Printers IP address

Press the Menu button 5 times to display Network Settings Press OK, press Menu button and the OK button to navigate between screens. Make changes according to network environment.

XXI. Self-Diagnostic Test Flow

Refer to the Service manual for details

XXII. Service Tables

Error Codes

The error codes will be displayed in the GUI of SOM (Printer model) or on the LCD (MF model) if the machine has a problem. These can be recovered by the customer. Refer to the service manual for more details.

XXIII. Service Table Service Program

There is an LCD on the MF models. To execute the service program, access the "Maintenance Mode Menu" or "Fax Service Menu" with special key assignments. For details, refer to the "Service Menu (MF Model)" section.

The MF model has several service menus. Each service menu has several adjustment items. This section explains how to enter each service menu and what you can do in each service menu.
Each menu is classified into two "Modes" depending on how you enter the service menus.

- "Menu Mode" can be executed by pushing a sequence of keys.
- "Special Mode" can be executed if you press certain keys at the same time as you turn the power on.

Menu Mode	
Maintenance Mode Menu	This is a menu for maintenance and service.
Special Mode	
Reseller Default Settings Menu	This is a menu for initializing all information stored in the controller, except for some counters. • These counters are initialized: Print/Scan/Copy/Fax functional Counter, Jam Counter • These counters are not initialized: Printer/Scanner Engine Counter, which are printed in the "Configuration Page". After initializing with this menu, when the user powers on the machine, the Initial Setup Menu appears. The user must select Language in Country in this menu.
Fax Service Test Menu	This is a menu for checking the fax mode.

Entering the Maintenance Mode Menu

1. Turn on the machine.
2. Press these keys in the following order:
   "Clear/Stop", "1", "0", "7" and "Color Start"
1. "Maintenance Mode" is displayed on the LCD.
2. Navigate using the up and down arrow keys

To exit the maintenance mode menu, press the "Clear/Stop" or "Return" key until the "Ready" display appears.

Menu List

Display Info		
Model Name		Displays the Model Name, Depends on Engine Firmware Settings
FW Ver.	CTL FW Ver.	Displays the Firmware Version
	FAX FW Ver.	Displays the PDL Firmware Version. (G181 doesn't support this)
	MCTL FW Ver.	Displays the Engine Firmware Version
	PDL FW Ver	Displays the PDL Firmware Version. (G183/184)
	Printer Counter	Displays the following counters of the printer engine. Total Page/ Color Image/ Black Image
	Scanner Counter	Displays the sum total of scanner counters for each mode. Total Page/ Black Page/ Color Page / ADF Used
	Jam Counter	Displays the number of paper jams at each location. Total/ ADF/ Printer Output Bin/ Internal/ Tray1 / Tray2
	Coverage	Displays the number of paper misfeeds with tray 1 or tray 2. Coverage1 (Tray 1)/ Coverage2 (Tray2)

Print Reports	
G3 Protocol dump list	G3 protocol dump of the latest communication is printed. (G181 doesn't support this) Off (Default)/ Error/ On

Engine Maintenance		
Init Engine EEPROM		This clears all counters except "Full Color" and "Black and White" in the total counter. When you execute "Init Engine EEPROM", the engine EEPROM is initialized. Turn the machine power off/on after you change this setting.
Model		Displays only 1: SP C220N 2: SP C221N

		3: SP C222DN Displays the current model in a dropdown list. Do not change this setting (Designed for Factory Use).
Brand ID		00* – 7F Displays the current brand ID number. Do not change this setting (Designed for Factory Use).
Maintenance ID		00* – 7F Displays the current maintenance ID number. Do not change this setting (Designed for Factory Use).
LSU Adjustment	Input 160 bytes setting.	Character: alphanumeric "0-9", "a-f", "A-F", only valid data can be input. Input length: 160 bytes
Trans. Belt Adjust		When you execute "Trans. Belt Adjust", the transfer belt adjustment is done. This calibrates the motor speed to match the length of the new transfer belt.
Fuser SC Detect	On/Off*	If On, the engine detects SC559. If Off, the engine does not detect "Fusing SC Reset".
Color Registration		The engine will do color registration and density tuning automatically. The printer will warm up automatically after this setting is changed.
Reset Transfer Unit Life Counter		Resets the transfer unit life counter.
Fuser SC Reset		This button is for resetting an SC related with the fusing errors.
Toner Limit	Text	Determines the maximum amount of ink/toner you can use in any area of your text. This is where you are controlling exactly how much ink will be used during printing. [200 to 400 / 250 (Default)/ 10/step] Setting 0: Off
	Graphic	Determines the maximum amount of ink/toner you can use in any area of your graphic. This is where you are controlling exactly how much ink will be used during printing. [200 to 400 / 250 (Default)/ 10/step] Setting 0: Off

	Image	Determines the maximum amount of ink/toner you can use in any area of your image. This is where you are controlling exactly how much ink will be used during printing. [200 to 400 / 250 (Default)/ 10/step] Setting 0: Off
PNP Name		NA Model: RICOH/ 'nul' EU Model: RICOH/ NRG/ LANIER ASIA Model: RICOH/ LANIER China Model: RICOH
Destination		Sets the destination and updates the engine setting. JPN/ NA (Default)/ EU/ ASIA/ China
2nd Transfer Fuser Temp.	2nd Transfer Front	Adjusts the transfer roller current, based on the default value. [-15 to 15 / 0 (Default) / 1 uA/step]
	2nd Transfer Back	Adjusts the transfer roller current, based on the default value. [-15 to 15 / 0 (Default) / 1 uA/step]
	Fuser Temperature	Adjusts the temperature of the fusing unit, based on the default value. [-30 to 0 / 0 (Default) / 2°C/step]
Registration	Horiz. Tray1	Adjusts the horizontal registration for tray 1. If the machine settings are reset to the factory defaults, this value does not change. [-15 to 15 / 0 (Default) / 4 mm/step]
	Vert.Tray1	Adjusts the vertical registration for tray 1. If the machine settings are reset to the factory defaults, this value does not change. [-15 to 15 / 0 (Default) / 0.24 mm/step]
	Horiz.Tray2	Adjusts the horizontal registration for tray 2. If the machine settings are reset to the factory defaults, this value does not change. [-15 to 15 / 0 (Default) / 4 mm/step]
	Vert.Tray2	Adjusts the vertical registration for tray 2. If the machine settings are reset to the factory defaults, this value does not change. [-15 to 15 / 0 (Default) / 0.3 mm/step]
	Horiz.Bypass	Adjusts the horizontal registration for the bypass tray. If the machine settings are reset to the factory defaults, this value does not change. [-15 to 15 / 0 (Default) / 4 mm/step]
	Vert.Bypass	Adjusts the vertical registration for the bypass tray. If the machine settings are reset to the factory defaults, this value does not change. [-15 to 15 / 0 (Default) / 0.3 mm/step]

	Horiz.Dup.Back	Adjusts the horizontal registration for the back side in duplex mode. If the machine settings are reset to the factory defaults, this value does not change. [-15 to 15 / 0 (Default) / 4 mm/step]
	Vert.Dup.Back	Adjusts the vertical registration for the back side in duplex mode. If the machine settings are reset to the factory defaults, this value does not change. [-15 to 15 / 0 (Default) / 0.3 mm/step]
Reset Count		Resets counters to factory defaults.
Clear Count		Clears the Scanner and Jam Counters.
Replace Fuser		Resets the maintenance counter for the fusing unit.. This item appears only when the fusing unit life is almost expired

Scan Maintenance		
Mono Compression Setting	Sets the monochrome compression type for scanning. MH (Default)/ MR/ MMR	
Regist Adjust	ADF Main Reg.	Adjusts the ADF Scan main-scan registration. (G181 doesn't support this.) [-2.0 to 2.0 / 0 (Default)/ 0.1 mm/step]
	ADF Sub Reg.	Adjusts the ADF Scan sub-scan registration. (G181 doesn't support this.) [-2.0 to 2.0 / 0 (Default)/ 0.1 mm/step]
	Flatbed Main Reg.	Adjusts the Flatbed Scan main-scan registration. (G181 doesn't support this.) [-2.0 to 2.0 / 0 (Default)/ 0.1 mm/step]
	Flatbed Sub Reg.	Adjusts the Flatbed Scan sub-scan registration. (G181 doesn't support this.) [-2.0 to 2.0 / 0 (Default)/ 0.1 mm/step]
Size Adjust	ADF Main Reg.	Adjusts the ADF Scan main-scan magnification. (G181 doesn't support this.) [-0.9 to 0.9 / 0 (Default)/ 0.1 %/step]
	ADF Sub Reg.	Adjusts the ADF Scan sub-scan magnification. (G181 doesn't support this.) [-0.9 to 0.9 / 0 (Default)/ 0.1 %/step]
	Flatbed Main Reg.	Adjusts the Flatbed Scan main-scan magnification. (G181 doesn't support this.) [-0.9 to 0.9 / 0 (Default)/ 0.1 %/step]
	Flatbed Sub Reg.	Adjusts the Flatbed Scan sub-scan magnification. (G181 mdoesn't support this.) [-0.9 to 0.9 / 0 (Default)/ 0.1 %/step]

Fax Maintenance (G181 doesn't support this.)		
Modem Settings	RX Level	Sets the reception level. [-43 dBm (Default)/ -33 dBm/ -26 dBm / -16 dBm]
	TX Level	Sets the transmission level. [0 dBm/ -1 dBm/ -2 dBm/ -3 dBm/ -4 dBm / -5 dBm/ -6 dBm/ -7 dBm/ -8 dBm/ -9 dBm / -10 dBm/ -11 dBm/ -12 dBm/ -13 dBm / -14 dBm/ -15 dBm]
	Cable Equalizer	These selectors are used to improve the pass-band characteristics of analogue signals on the telephone line. [0Km (Default)/ 1.8Km/ 3.6Km/ 7.2Km]
Protocol Definition	Training Retries	This sets the number of training retries to be repeated before automatic fallback. [1 Time/ 2 Times (Default)/ 3 Times/ 4 Times]
	Encoding	Sets the compression method for Tx/Rx. [MMR+MR+MH (Default)/ MR+MH/ MH]
Protocol Definition Timer	T0 Timer	Timeout for response from the called station in automatic sending mode [35 Sec/ 45 Sec/ 55 Sec (Default)/ 60 Sec/ 90 Sec/ 140 Sec]
	T1 Timer	Set the time length for the T1 timer. [40 Sec (Default)/ 50 Sec]
	T4 Timer	Set the time length for the T4 timer. [3 Sec (Default/ 4.5 Sec]
RX Settings	Silence Detection Time	Silence (No tone) detection time (Rx mode : FAX/ TAD Only) After the line is connected via the external telephone, the machine can detect silence (no tone) for the time length specified by this setting. [30 sec (Default)]
	CNG Tone Detection Time	CNG tone detection time (RX mode : FAX / TEL, FAX / TAD Only) After the line is connected via the external telephone, the machine can detect a CNG signal for the time length specified by this setting. [5 Sec (Default)/ 10 Sec]
	CNG Cycles	Number of CNG cycles to be detected This setting is only effective for FAX/TAD mode. [1.5 Cycle (Default)/ 2.0 Cycle]
	Tone Sound Monitoring	Determines the period when tones from the line are monitored. [No Monitoring/ Up To Phase B (Default)/

	Stop/Clear key	Pressing the Stop/Clear key can stop the current receiving operation. Received data is lost. [Not Functional (Default)/ Functional]
	Off-Hook Level	Sets the off-hook detection threshold. [10V (Default)/ 15V/ 20V/ 25V]
TX Settings	Redial Interval	Sets the redial interval when Tx fails. [5 Min/ 6 Min] Redialings Sets the number of redials
	Redialings	Sets the number of redials when Tx fails. [2 times/ 3 Times/ 4 Times/ 5 Times]
Overseas Comm Mode Settings	Overseas Comm Mode	This sets the machine to ignore a DIS signal sent from the called station once in a sending operation. [Off (Default)/ Ignore DIS Once]
	Minimum Time Length	If this setting is set to "On", the machine detects the CNG signal after the line is connected. If it is set to "Off", the machine detects the CNG signal as long as the line is connected. [100 Ms/ 200 Ms/ 300 Ms/ 400 Ms (Default)]
Dial Pulse Setting	Dial Pulse Type	This sets the number of pulses that are generated during dialing. • N: Dialing '0' generates 10 pulses --- Dialing '9' generates 9 pulses. • N+1: Dialing '0' generates 1 pulses --- Dialing '9' generates 10 pulses. • 10-N: Dialing '0' generates 10 pulses --- Dialing '9' generates 1 pulse.
Tone Signal Settings	Tone Signal Transmission Time Length	Sets the tone signal transmission time length [100 ms (Default)]
	Minimum Pause In Tone Dialing	Sets the minimum pause during tone dialing [100 ms (Default)/ 150 ms/ 200 ms]
	Attenuator For Pseudo Ring Backtone To the Line	Sets the attenuator for pseudo ringback tone to the line [0 to 15 / 10 (Default)/ 1 dB/step]
	DTMF Level	Sets the transmission level of DTMF tones. [-12 dBu / -11 dBu/ -10 dBu/ -8 dBu/ -
	DTMF Delta	Sets the level difference between high band frequency signals and low band frequency signals when sending DTMF tones. [2 dBu/ 3 dBu]

1Dial Tone Detection	Wait Time	The machine starts dialing after the specified interval without detection of a dial tone when Dial tone detection is set to "No detection". [3.5 Sec (Default)/ 7.0 Sec/ 10.5 Sec / 14.0 Sec]
	Timeout Length	This setting sets the time-out length for the 1st dial tone detection. The machine waits for a dial tone for the specified time and disconnects itself from the line when no dial tone is input. [10 Sec (Default)/ 15 Sec/ 20 Sec/ 30 Sec]
BT (Busy Tone) Detection	BT Setting	DFU [Off/ On] BT: Busy tone
	BT Frequency	DFU [300-550 Hz/ 300-650 Hz/ 325-525 Hz/ 340-550 Hz/ 350-500 Hz/ 350-550 Hz/ 375-475 Hz/ 380-520 Hz]
	BT Level	DFU [-35 dB/ -36 dB/ -37 dB/ -38 dB/ -39 dB]
	BT Cadence	DFU [0.10/ 0.15/ 0.20/ 0.25/ 0.30/ 0.35/ 0.40/ 0.45/ 0.50/ 0.75]
Comm Settings	RTN Rate	The machine checks the actual data reconstruction errors and then transmits an RTN depending on the decoding error rate that is set by this setting (Number of lines containing an error per page / Total number of lines per page) [10%/ 15%].
	V34 Modem	DFU [Permitted (Default)/ Prohibited]
	V17 Modem	DFU [Permitted (Default)/ Prohibited]
V34 Settings	Equalizer	These selectors set the equalizer's training level to be applied if training fails due to poor line connection. [Automatic (Default)/ 4 Points/ 16 Points]
	Redialing	Resend when a communication error occurs. [Disabled (Default)/ Not Disabled]
	First TX Speed	Sets the first transmission speed choice, before fallback. [2400 Bps/ 4800 Bps/ 7200 Bps/ 9600 Bps / 12000 Bps/ 14400 Bps/ 16800 Bps/ 19200 Bps/ 21600 Bps/ 24000 Bps/ 26400 Bps/ 28800 Bps/ 31200 Bps/ 33600 Bps (Default)]

Reseller Default	
Not Execute	Does not reset anything. Returns to the upper level.
Execute	Resets all the settings to the factory defaults except the following. • Counter for Machine Life After executing, the initial setup menu starts after the next power-on.

• The "Reseller Default" menu can be entered directly at power-on. If you want to enter this mode directly, Turn on the machine while pressing the "Copy" key.

Fax Service Test Menu

Entering the Fax Service Test Menu

Turn on the machine while pressing the "Fax" key.

Going into the Next Level/ Returning to the Previous Level

- To go into the next level of an item, select an item then press the "OK" key.
- To return to the previous level of an item, press the "Return" key.

Exiting the Maintenance Mode Menu

To exit the maintenance mode menu, press the "Clear/Stop" or "Return" key until the "Ready" display appears.

Refer to Service manual for more details.

XXIV. Firmware Update

Do not turn off the main power of the machine during the firmware updating. If doing so, the engine board or controller board may be damaged.

Checking the Machine Firmware Version

1. Turn the machine on.
2. If the printer driver is not installed on your PC, install the printer driver now.
3. Press "Menu" and select "Report Print" with the "Up" or "Down" key.
4. Press "OK" and select "Maintenance Page" with the "Up" or "Down" key.
5. Press "OK" to display the "Firmware version (Controller)" and "Engine FW version"

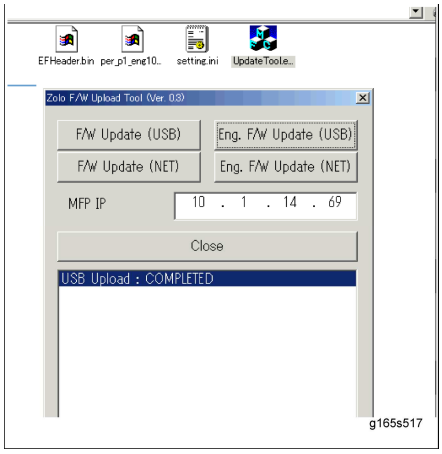
Updating the Controller Firmware

1. Make a folder in your computer.
2. Save the files (".dwn", "/ini" and ".exe") in the folder.
3. Click the exe file to execute the updating program.
1. Click "Burn" to send the controller firmware from the PC to the machine.
6. The machine makes a beep sound when starting the firmware update.
6. An image is displayed on the PC and "Firmware update" and "Updating" are displayed on the operation panel.
7. Then, you can close this window at your PC.

• Do not turn off the machine until "Done Please reboot" is displayed in the operation panel. Otherwise, the controller board will be damaged.

• If “Done Please reboot“ does not appear, the download failed. Try again. You can also switch from an Ethernet connection to a USB connection and see if that works. If you still cannot download the firmware, it may be necessary to change the EGB and/or the controller board.
• If power failed during the download, try again. If you still cannot download the firmware, it may be necessary to change the EGB and/or the controller board.

Updating the Engine Firmware
1. Make a folder in your computer.
2. Save the files (".bin", ".fwu", ".ini" and ".exe") in the folder.



3. Click the exe file to execute the updating program.
4. Click "Eng. F/W Update (USB or NET)" to send the engine firmware from PC to MF printer.
   • The "F/W Update (USB or NET)" buttons are for designer use only. Do not use these buttons.
5. The machine makes a beep sound when starting the firmware update.
6. The image above is displayed at the PC and "Firmware update" and "Updating" are displayed on the operation panel.
7. Then, you can close this window at your PC.

Caution:
Do not turn off the machine until "Done Please reboot" is displayed in the operation panel. Otherwise, the controller board will be damaged.
• If “Done Please reboot“ does not appear, the download failed. Try again. You can also switch from an Ethernet connection to a USB connection and see if that works. If you still cannot download the firmware, it may be necessary to change the EGB and/or the controller board.
• If power failed during the download, try again. If you still cannot download the firmware, it may be necessary to change the EGB and/or the controller board.

Boot Loader Firmware
This is also listed on the configuration page, but this firmware is not updated in the field.

XXV. Energy Rating:

Rating Power Specifications: 120V, 60Hz
Power Consumption: Max. :

When Operating	G181, G183, G184 :	1300W
Energy Saver:	G181 /G183	20W
	G184:	25W

Warm-Up Time: **Normal** 51 sec
Quick 10 sec

Energy Star Mode	Default		15 Minute
	Selectable		1 - 240 min.
Safety Standard	US version		UL 1950/1995 Third Edition CSA-22.2 no 950-95
EMI	US version		FCC FCC47 CFR, Chapter1, Part15 Class B
Environmental Standard	US version		Energy Star Color Printers-Tier2
Sound Power Level	Stand by		Not Over 46dB(A)
	Printing		Black G181 63dB(A), G183/G184 64.4dB(A) Color G181 63dB(A), G183/G184 64.4dB(A)
Sound Pressure Level	ISO7779	Stand by	Not over 37dB
		Printing	Black / Color G181 57dB(A) G183/G184 58dB(A)

XXVI. RELIABILITY INFORMATION

	Model G181, G183	G183	G184
APV	1.5K prints	1.5K prints	1.5K prints
Color Ratio	60%	60%	60%
Max Monthly PV (Duty)	30K prints	30K prints	30K prints

- All items above are calculated based on the machine APV assuming the following:
  The machine is installed under office environment

The above items are calculated based on the following conditions
A4 (LT) short-edge feed
5% image coverage ratio
3P/J
The above MPBF and EM ratio includes AIOs.

Alert Display & Machine Condition

The table below shows the alert display for supply items.

Maintenance Kit	Action	Expected Yield	Near End Alert Timing	Alert		Machine Condition
				Near End	End	
Print Cartridge: (AIO BK)	Replace	1.5 k print	200 prints before the end	Message is shown	Message is shown	Prohibit printing
Print Cartridge: (AIO CMY each)	Replace	1.6 k prints	200 prints before the end	Message is shown	Message is shown	Prohibit printing
Waste Toner Bottle (Color ratio 50%)	Replace	20k prints	400 prints before the end	Message is shown	Message is shown.	Prohibit printing

The yield figures in the above table are based on the following conditions:
A4 (LT) short-edge feed 5% image coverage ratio 2Pages/Job

XXIX. TRAINING

B222 or G160 Certified professionals who have completed Printing Technologies or predecessor courses should have the skills necessary to service this series and have been **automatically certified** by Ricoh University on the G165/G166/G167 Printer and G181/G183/G184 MFP.

It is **strongly** recommended that all the information provided in this G165/G166/G167 Printer and G181/G183/G184 MFP Service Documentation Update Package be **thoroughly** reviewed by all automatically certified Service Professionals **prior** to performing any service. It is also **strongly recommended** that Service Professionals review this material while they have access to a G165/G166/G167 Printer and G181/G183/G184 MFP, preferably with all options.

Service Professionals who are *not* currently certified on the B222 or G160 or have not completed Printing Technologies or it's predecessor courses can achieve certification on the G165/G166/G167 Printer and G181/G183/G184 MFP by completing either the B222 or G160 **and** Printing Technologies.

Training Information
Self Pace Order Number

G181/ G183/ G184 Service Documentation Update Package:	Order number	003358MIU
G181/ G183/ G184 Service Manual:	Order number	003359MIU
G181/ G183/ G184 Parts Catalog:	Order number	003360MIU

Bundled Software "Page Manager" support

There is an utility software "Page Manager" included in the utility software CD, bundled together with the mainframe:
- PageManager: Software for document management
  Note: "PageManager" is a retailer-sold application.

Issues related to utility software "*Page Manager*":
Please advise customers to contact the manufacturer directly or refer to the latest product support information on the manufacturer's website.

For USA

Company name:	NewSoft America Inc.
Postal Address:	500 Yosemite Drive, Suite 100, Milpitas CA 95035 U.S.A.
Telephone:	408-503-1212
Fax:	408-503-1201
E-mail Address:	contactus@newsoftinc.com
URL:	http://www.newsoftinc.com

For Canada
E-mail Address: contactus@newsoftinc.com (English)

Other countries
E-mail Address: tech@newsoft.eu.com (English)

XXXIV. SPECIAL TOOLS

Tool List

The following special tools should be prepared to maintain the new model properly in the field:

Unique/Common
U: Unique for this model
C: Common with listed model

Item	Part Number	Description	Q'ty	Unique or Common
1	-	PC for Windows 2000/XP/Vista, Windows server 2003/2003 R2, or Mac OS 9/x, 10.1 –10.4 (USB or network connection) Note: PC is necessary to update the firmware for both PE-P1 and MF1and to access SP mode for PE-P1.	1	C (General)
2	B2299311	SPECIAL CLOTH 10PCS/BAG	1	C (B229)
3	VSSM9000	Digital Multimeter – FLUKE87	1	C (General)
4	C4019503	20X Magnification Scope	1	C (General)
5	A2579300	Grease Barrierta – S552R	1	C (General)
6	52039501	Silicon Grease G-501	1	C (General)

Contact Information

Name	Contact
Technical Services Call Center (Hotline)	Ricoh: (800) 537-4264 Savin/Gestetner: (800) 291-6044 Lanier: (800) 333-3147
Application Help Desk (Software Issues)	Ricoh Phone Card: 2 Call - 000781MIU, 5 Call - 000900MIU Savin Phone Card: 2 Call - 12992, 5 Call - 12993 Gestetner Phone Card: 2 Call - 12994, 5 Call - 12995
National Reclamation Center	(800) 557-4264 http://www.nrc-usa.com
Technology Solutions Center Web Site	http://www.tscweb.net
Configurator	http://www.connectivity-cafe.com
Ricoh Web Site	http://www.ricoh-usa.com/
Savin iLINC Web Site	http://www.savin.com
Headquarter Web Sites	Ricoh Corporation: http://www.ricoh-usa.com Savin Corporation: http://www.savin.com Gestetner Corporation: http://www.gestetnerusa.com/ Lanier Corporation: http://www.lanier.com
Material Safety Data Sheets	(800) 336-MSDS (6737)
Eastern Training Center	(973) 808-7646 http://www.ricohuniversity.com
Western Training Center	(714) 566-3692 http://www.ricohuniversity.com

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Information contained in this document is subject to change.